C1

16:14:57 OCA PAD AMENDMENT - PROJECT HEADER INFORMATION 05/03/96

Active

Project #: E-16-612 Cost share #: E-16-346 Rev #: 21
Center # : R6836-0A0 Center shr #: F6836-0A0 OCA file #:
Work type : RES
Contract#: NGT-40013 Mod #: SUPPLEMENT 7 Document : GRANT
Prime #: Contract entity: GTRC

Subprojects ? : Y CFDA: 43.002
Main project #: PE #: N/A

Project unit: AERO ENGR Unit code: 02.010.110
Project director(s):
ARMANIOS E A AERO ENGR (404)894-8202

Sponsor/division names: NASA / HEADQUARTERS/WASHINGTON, DC
Sponsor/division codes: 105 / 002

Award period: 890901 to 980131 (performance) 980228 (reports)

Sponsor amount	New this change	Total to date
Contract value	0.00	2,738,000.00
Funded	356,000.00	2,384,000.00
Cost sharing amount		1,255,800.00

Does subcontracting plan apply ?: N

Title: ESTABLISHMENT OF GEORGIA TECH AS A NATIONAL SPACE GRANT COLLEGE.....

PROJECT ADMINISTRATION DATA

OCA contact: Anita D. Rowland 894-4820

Sponsor technical contact	Sponsor issuing office
MS LYNNE KEFFER, CODE: FEH	ADRIENE WOODIN, CONTRACTING OFFICER
(202)358-1525	(202)358-0510
NASA HEADQUARTERS	NASA HEADQUARTERS
EDUCATIONAL AFFAIRS DIVISION	CONTRACTS & GRANTS DIVISION
WASHINGTON DC 20546	WASHINGTON DC 20546

Security class (U,C,S,TS) : U ONR resident rep. is ACO (Y/N): N
Defense priority rating : N/A N/A supplemental sheet
Equipment title vests with: Sponsor GIT X
PURCHASE OF EQUIPMENT OF GFM ARE PROHIBITED.
Administrative comments -
SUPP. 7 AWARDS YEAR 2 OF THE PROGRAM. BUDGETED INTO SUB E-16-M97 TO TRACK THE CAPPED O/H RATE. __CONTINUATION

FIRST ANNUAL STATUS REPORT

NASA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM

For period covering 1 September 1989 to 15 August 1990

GEORGIA INSTITUTE OF TECHNOLOGY SPACE GRANT CONSORTIUM

CLARK ATLANTA UNIVERSITY
GEORGIA INSTITUTE OF TECHNOLOGY
GEORGIA STATE UNIVERSITY
TUSKEGEE UNIVERSITY

By

David A. Peters
Principal Investigator
School of Aerospace Engineering
Georgia Institute of Technology
Atlanta, GA 30332-0150

15 August 1990

BACKGROUND

This is the first annual report of the Georgia Tech Space Grant Consortium sponsored by NASA. The purpose of the Georgia Tech Space Grant Consortium is to encourage and support participation of underrepresented groups in aerospace fields by offering fellowships and support through a wide range of programs. The first five months of the grant involved only Georgia Institute of Technology. During that time, we were engaged in three tasks. First, we searched for a full-time administrator. The position was filled by Ms. Wanda Jeter, a graduate of Howard University, on January 2, 1990. Second, we began the process of setting up a visible Space Grant Office on the Georgia Tech Campus. Third, we did administrative planning in preparation for the complete funding of all consortium members which began on February 2, 1990.

Since February 2, 1990, we have been engaged in many activities. First, we completed negotiations with the Georgia Tech Administration and located 650 square feet of space for the office. This space is located in a key location on campus directly next to the President's Office and Administration Building. We have renovated the space by construction of a wall, installation of carpet and office furnishings, and design of a comfortable area where students may come, ask questions, and browse through literature on Space and Aeronautics. We have also administered fellowships and initiated or supported many programs at every place along the student "pipeline" as outlined below.

FELLOWSHIPS

The Space Grant Budget includes $100,000 of fellowship money. During the first meeting of the Georgia Tech Space Grant Consortium, members present decided that Georgia State University, Clark Atlanta University, and Tuskegee University would each receive $30,000; Georgia Tech would receive the remaining $10,000. This distribution was based on the fact that Georgia Tech receives a majority of the non-fellowship funds and that Georgia Tech has other sources of student funding. Furthermore, it was decided by the committee that Georgia Tech's $10,000 would be exclusively earmarked for underrepresented graduate students conducting aerospace related research, because the other institutions in the consortium will concentrate on undergraduate students. Thus, to keep the program balanced, Georgia Tech will concentrate on graduate students, who would not otherwise be funded by

Georgia Tech's program. Exhibit 1 offers a complete breakdown of fellowships awarded by the Georgia Tech Space Grant Consortium. The availability of fellowships was announced in campus newspapers (Exhibit 2).

Dr. Peters, and Wanda Jeter have been working with the Georgia Tech Office of Corporate Relations to obtain matching funds for the consortium fellowships. Wanda Jeter is also working with NCEA (National Consortium for Education Access). This organization in located on Georgia Tech's campus and directed by Dr. Leroy Ervin. The purpose of the organization is to increase the number of minority students enrolled in Ph.D. programs in engineering, and to increase minority faculty representation by offering financial assistance in the form of fellowships, stipends, and tuition waivers. The consortium and NCEA will, in some instances, share the cost of student aid, or refer students to each other.

PROGRAMS

Field Trips

The first field trip sponsored by the Georgia Tech Space Grant Consortium was to Marshall Space Flight Center in Huntsville Alabama. Twenty-one outstanding juniors and seniors from high schools throughout the Atlanta metropolitan area were chosen by science teachers to participate on this field trip. All arrangements for the field trip were made by the consortium. The goal of the trip was to send a group of outstanding students to Huntsville to spark their interest in space related fields. The response to the field trip has been positive and the outcome is measured by survey forms (Exhibit 3) and continued follow--up.

Tuskegee University sponsored a field trip with 212 students to Marshall Space Flight Center for motivation. These students were part of the MITE (Minority Introduction to Engineering), RADHS (Research Apprenticeship of Disadvantaged High Schoolers, and FASTREC (Freshman Accelerated Start-Up and Training and Retention in the Engineering Curricula) groups. Space grant funds paid totally for these trips and supported some students with stipends.

Space Camps

The first Space camp sponsored by the consortium was a combined effort with the Office of Civic Affairs at Georgia Tech. The Space Camp was held jointly at the Walden School in Atlanta and the Georgia Tech

Campus. Eighty-seven junior high students from inner-city Atlanta schools participated in the camp which lasted for one week. A schedule of the weeklong activities is attached (Exhibit 4). The goal of this particular activity was to expose inner-city youngsters to science through an enjoyable activity such as a space camp. The outcome of this activity was also measured by surveys.

The Office of Civic Affairs and the Georgia Tech Consortium, which is the major source of funding, are already conducting planning meetings for the 1991 Space Camp which will be held for two weeks and include an overnight stay at Marshall Space Flight Center.

Georgia State University sponsored two space camps for middle school students. The first camp was held in Marietta, Georgia, with 59 students attending. The second camp was held in Walker County, Georgia, with 30 students attending. Students participating in the space camps were fully supported by funds from the Georgia Tech Space Grant Consortium.

Clark Atlanta University also sponsored one space camp in conjunction with Georgia State University and the Ron McNair Foundation. This space camp was held on the Clark Atlanta campus, and 27 inner-city, middle school students participated. Tuition for space camp was paid by Clark Atlanta University. Dr. Kofi Bota, Vice President of Sponsored Programs and Chemistry Professor, has initiated discussions with the McNair Foundation regarding follow-up activities during the academic year, as well as dealing with the general issue of space-related science and engineering for elementary and secondary school students.

Dr. Ted Colton, Georgia State University Science Education Professor, was instrumental in each space camp sponsored by the consortium. Dr. Colton was responsible for training all school teachers involved in space camps and the total coordination of space camps at Clark Atlanta, Southern Tech, and Walker County.

Summerscape

Summerscape is a two week activity designed to motivate junior high school students. This activity was held on the Georgia Tech Campus and planned by the Office of Academic Affairs in conjunction with the consortium (Exhibit 5). The consortium provided scholarships for six students of underrepresented groups. The consortium was also responsible for an afternoon of aerospace related activities which included a lecture by a graduate student and paper airplane contest. Other activities designed to motivate the youngsters and arouse their interest in math and science included rocket building, bridge building, tours of

at Georgia Tech, environmental awareness demonstrations, etc. A survey was also used to measure the effectiveness of this program. (Exhibit 6).

Summer Workshop for Pre-College Teachers

A summer workshop for pre-college teachers was conducted during the period from June 18 - 23 under the auspices of Clark Atlanta University and the Science and Technology Museum of Atlanta (SCITREK). This workshop will be followed by a field trip on August 14, 1990 to Marshall Space Flight Center, Huntsville, Alabama.

During the 1990-91 academic year, three physics graduate students who worked with the summer workshop will provide assistance to the participant teachers to design classroom experiments incorporating the principles learned in the workshop. Periodic meetings will be conducted among science and computer science faculty of Clark Atlanta University; the science resource persons of SCITREK; the science coordinator of the Atlanta Public Schools; and the teacher participants to review the space science instructional activities being implemented by each teacher. Of particular interest will be comparisons among the same grade levels within the three clusters.

Speakers

Dr. Lakshmi Sankar, Georgia Tech Aerospace Engineering Associate Professor, was the first speaker scheduled by the consortium. Dr. Sankar spoke to a group of students on the subject of Aerodynamics. The students at the high school have requested that Dr. Sankar and other aerospace engineering professors speak at their school during the 1991-1992 school year.

Captain Bryan Fortson was scheduled as a speaker for the Georgia Tech Space Camp. Captain Fortson is a Black Ph.D. candidate in aerospace engineering at Georgia Tech and also a member of the United States Air Force.

Both speakers, Dr. Sankar and Captain Fortson have been added to the consortium's list of speakers for future activities.

Tuskegee University sent speakers to four schools in rural Alabama to assist them in hydroponics studies and/or in setting up hydroponics experiments. NASA's Florida Teacher-in-Space, Susan Forte has spoken at several events sponsored by Tuskegee.

Tours

Georgia Tech routinely sponsors tours of its facilities for pre-college students. The consortium was responsible for conducting eight tours through the School of Aerospace Engineering (Exhibit 7). During these tours, the role of the Georgia Tech Space Grant Consortium within the School of Aerospace Engineering was emphasized. All students were also encouraged to visit the Space Grant Office on Georgia Tech's Campus for additional information. The consortium has maintained a list of students and will keep them updated on fellowship information, and various pre-college engineering programs.

The School of Agriculture and Home Economics at Tuskegee University was host to over 500 precollege students. These students toured the Tuskegee University NASA/CELSS sweet potato research facility. Students were chosen from 11 schools in Alabama and 2 schools in rural Georgia. As part of Tuskegee's education efforts, demonstrations of hydroponic experiments with tomatoes, cucumbers, potatoes and sugar beets have recently been set up for visiting groups.

Banquets

The consortium in conjunction with the Minority Alumni Affairs Office and Undergraduate Recruiting will sponsor two banquets for high school seniors. The purpose of these banquets is to encourage minority students to attend college, particularly in math and science related fields. The particular program the consortium is involved with is "Twenty - Four Hours At Tech," which is an intensive program involving activities such as pairing students with mentors, viewing recruitment films, attending lectures, fun-filled activities such as going to a Georgia Tech football game, and closing ceremonies which will include a formal banquet.

Community Interaction

The Boys and Girls Club of South Atlanta has expressed great interest in working with the Georgia Tech Space Grant Consortium. During the fall, the consortium will plan several science and math activities at the Boys and Girls Club.

Atlanta's only science museum, Sci-Trek, has offered its assistance in future programs that the Space Grant Consortium plans. Presently, we are interested in working on a mobile space science exhibit with the

museum in order to reach the rural areas of Georgia. Actual work on the project will begin in 1991.

Dr. Peters and Wanda Jeter will participate in the Warner Robins Air Logistics Open House, Warner Robins, Georgia, on October 6 and 7. The Open House will give the Dr. Peters and Ms. Jeter the opportunity to speak to the citizens of south Georgia and share information about the Space Grant Consortium.

Wanda Jeter has recently joined NAMEPA (National Association of Minority Program Administrators), and the Fulton County Women's Chamber of Commerce. Through these two organizations, Ms. Jeter, will be able to plan additional activities for members of underrepresented groups.

Publicity

In an effort to inform the public of the establishment of the Georgia Tech Space Grant Consortium, press releases were mailed to the Atlanta-Journal and Constitution, Black Issues in Higher Education, The Black Collegian, and campus-based newspapers (Exhibit 8). The Georgia Tech Research Institute has interviewed Dr. David Peters for an article in their research journal. The Research Institute Journal has statewide circulation and limited national circulation.

The consortium will take advantage of future publicity opportunities and in its association with various organizations such as the Boys and Girls Club of America and the Women's Chamber of Commerce, such opportunities do exist. Another opportunity to take advantage of public reactions will be our Open House scheduled for October 1990.

Open House

An open house will be sponsored by the consortium during the month of October. This open house will be an opportunity to share information with the public. Students, fellowship recipients, teachers, professors, school administrators, NASA representatives, and corporate representatives will be invited to the open house. The open house will be held at the Space Grant Consortium main office which is located on the Georgia Tech Campus.

Travel

Dr. David A. Peters, Wanda Jeter, and Dr. Phil Loretan, Tuskegee University, attended the first annual meeting of the NASA Space Grant Colleges/Consortia in Baltimore, Maryland. Dr. Peters will travel to Dallas, Texas in September for the second meeting of the consortia directors.

Dr. Peters also attended the American Society for Engineering Education Conference (ASEE) in Toronto, Canada, this past June. Dr. Peters attended numerous sessions, particularly those sessions with topics that were in line with the goals of the Georgia Tech Consortium.

Visitors

The Space Grant office is located in a very visible location on campus and the office was designed to have an inviting atmosphere. In addition to subscribing to more than 10 publications relating to aerospace, the consortium is maintaining a large source of reference material on other areas of interest to students such as fellowships, NASA employment opportunities, and college catalogues. On the walls of the Space Grant office, the NASA Space Grant Award Plaque is prominently displayed, along with other pictures and photographs. The office will soon house a large collection of aerospace models and other items of interest to aerospace enthusiasts.

Visits to the consortium office are encouraged. A record of all visitors and phone calls is maintained in a daily logbook. Visitors are given information on the consortium and often taken on a tour of the School of Aerospace Engineering.

PROJECTED PROGRAM

Clark-Atlanta will implement a Saturday Science Academy for middle school students beginning October 1, 1990. Georgia Tech will sponsor exhibits at various schools throughout Georgia, and continue to provide speakers. Also, the consortium will become involved in higher education recruitment of underrepresented groups, and work with schools to strengthen dual degree programs. This fall, Dr. Ted Colton, Georgia State, and Wanda Jeter, Georgia Tech, will begin work on a statewide Aerospace Newsletter.

Revisions have only been made to the Georgia Tech budget for 1991-1992 (Exhibit 9). After the first project year, which has been very

successful thus far, Dr. Peters, and Ms. Jeter decided to give more financial support to those activities that have the greatest impact on students and the community. An additional $10,000 will be added to the Georgia Tech fellowship pool because of the quality of students and significant research that the 1990 GRA recipients have been involved in. The support given through the fellowship program, has encouraged underrepresented students to continue their education; and the total funding of the Georgia Tech Consortium by NASA has encouraged many others to pursue science and engineering.

EXHIBIT 1

GEORGIA INSTITUTE OF TECHNOLOGY
SPACE GRANT COLLEGE/CONSORTIUM
FELLOWSHIP AWARDS

Ethnic Codes

I - American Indian * B - Black *** H - Hispanic *** A - Pacific Islander *** W - White**

OTHER CODES

HC - Handicapped

GEORGIA TECH

Student Name	Sex	Race	Graduate	UnderGrad	Duration of Fellowship	Area of Study or Research
Hollister Bryan	F	W	x - MS		4 quarters	Aerospace Eng Acoustics
Leon Phillips	M	B	x - MS		4 quarters	Aeropace Eng Composites
Karen Bibb	F (HC)	W	x - Ph.D.		4 quarters	Aerospace Eng Pulse Combustion
Joanna Joiner	F	W	x - Ph.D.		4 quarters	Electrical Eng Wave Spectra of Jovian Planets
Katherine DeYoung	F	W	x - MS		1 quarter	Molecular biology

TUSKEGEE UNIVERSITY

Student Name	Sex	Race	Graduate	UnderGrad	Duration of Fellowship	Area of Study or Research
	F		x - MS			Agricultural Food Science
		B		x - fresh		Plant and soil science
		B		x - fresh		Plant and soil science
		B		x - fresh		Engineering
		B		x - fresh		Engineering
		B		x - fresh		Engineering

GEORGIA STATE UNIVERSITY

Daphne Santiago	F	H	x-Ph.D.		4 quarters	Chemistry
Laura Kibler-Herzog	F	W	x-Ph.D.		4 quarters	Chemistry
Ann Boyer	F	W	x-Ph.D.		4 quarters	Chemistry
Greg Pritchett	M	B	x-Ph.D.		4 quarters	Chemistry
Richard Williams	M	B	x-Ph.D.		4 quarters	Chemistry

CLARK ATLANTA UNIVERSITY

Student Name	Sex	Race	Graduate	UnderGrad	Duration of Fellowship	Area of Study or Research
Gregory Simms	M	B		x - Soph	2 semesters	Computer Science
Cherita McLamore	F	B		x- Junior	2 semesters	Chemistry
Domenica Boswell	F	B		x - Junior	2 semesters	Physics
Darryl Dillard	M	B	x -Ph.D.		2 semesters	Chemistry
Calandra Hopkins	F	B	x-MS		2 semesters	Chemistry
Tommy Molden	M	B	x-MS		2 semesters	Chemistry
Jacqueline Carr	F	B	x-MS		2 semesters	Computer Science
Sheryl Good	F	B	x-MS		2 semesters	Physics

AERO ENGR 0150

EXHIBIT 2

Non-Profit Organization
U.S. Postage
PAID
Atlanta, Georgia
Permit No. 1137

whistle

THE GEORGIA TECH WHISTLE

VOLUME 16, NUMBER 12 - APRIL 16, 1990

Assistantships Now Available In Space Related Fields

The Georgia Institute of Technology Space Grant College/Consortium, located in the School of Aerospace Engineering, is offering limited graduate research assistantships to qualified female students and/or students in any underrepresented group.

Students applying for these assistantships must pursue space-related coursework in their home discipline, e.g., in aerospace engineering, chemical engineering, textile engineering, geophysical sciences, information and computer science, mechanical engineering, physics, chemistry, electrical engineering, materials engineering, or applied biology.

For more information, call Wanda Jeter at 3-0055.

EXHIBIT 3

GEORGIA INSTITUTE OF TECHNOLOGY SPACE GRANT CONSORTIUM

Activity Sponsored: _____

Date: _____

Participated as (circle one) student teacher volunteer parent

Age (student only) _____

1. How would you rate the total activity? Excellent Good Fair Poor? (circle one) Comments: _____

2. What did you learn from the activity?

3. Would you like to participate in future activities sponsored by the Georgia Tech Consortium? Yes No (circle one)

4. What type of activity would you like to see the Georgia Tech Space Grant Consortium sponsor in the future? _____

5. Please make any additional comments below

EXHIBIT 4

GEORGIA TECH-WALDEN MIDDLE SCHOOL SCIENCE/SPACE CAMP

DAILY SCHEDULE

MONDAY, JUNE 18

8:00 - 8:30 AM	Drop off campers at Walden Middle School
8:00 - 9:00 AM	REGISTRATION/Crew assignments (Campers will be assigned to crews with 10 campers and two middle school teachers each.)
9:00 AM	Welcome
9:15 AM	Video: Climate and Weather in space
9:45 AM	Break
10:00 AM	Team building exercises with crews Staff, YMCA of Metro Atlanta
12:00 NOON	Lunch **BRING A SACK LUNCH FROM HOME** **DRINKS WILL BE PROVIDED**
1:00 PM	Climatology, Meteorology and Space Meteorologist Ed Anderson (also 96 Rock personality and founder of The World of Wonderment)
2:00 PM	Aerospace Principles (Hands-on activities illustrating Bernoulli's principles in preparation for rocket building)
3:30 PM	Building your own model space station Francis Reddy, science teacher/writer for Odyssey Magazine, Sci Trek and Rand McNally
5:00 - 5:30 PM	Pick up campers at Walden School

TUESDAY, JUNE 19

8:00 - 8:30 AM	Drop off campers at Walden Middle School
8:30 AM	Crew meetings
8:45 AM	Introduction to Fiber and Material Engineering "What are Molecules, Anyway?" Dr. John Lundberg, Callaway Professor at Georgia Tech
9:00 AM	Demonstrations on fibers and materials used in space Georgia Tech faculty (Students will move from demonstration to demonstration)
10:00 AM	Board buses for Atlanta/Hartsfield International Airport
10:30 AM	Atlanta/Hartsfield International Airport * Tour airport * Meet Airport Commissioner Calvin Carter and members of the airport team
12:00 NOON	Picnic at park near airport **BRING A SACK LUNCH FROM HOME** **DRINKS WILL BE PROVIDED**
1:00 PM	Board buses for return to Walden School
1:30 PM	Model rocket building
3:30 PM	Space games and videos * "Black Stars in Orbit"
5:00 - 5:30 PM	Pick up campers at Walden School

WEDNESDAY, JUNE 20

8:00 - 8:30 AM	Drop off campers at Walden School
8:00 AM	Hot air balloon demonstration: Warren Bruno of Charley's Restaurant Bob Wilbanks, Aeronautical Enterprises, Inc.
8:45 AM	Crew meetings
9:30 AM	Finish building model rockets
10:30 AM	Board buses for Zoo Atlanta
11:00 AM	Zoo Atlanta Special Presentation: Animal Avionics Birds of Prey Show
12:00 NOON	Lunch at the zoo with mystery guests (Dr. Terry Maple with zoo staff and animals) **LUNCH WILL BE PROVIDED AT THE ZOO** **DO NOT BRING A SACK LUNCH FROM HOME**
1:00 PM	Special zoo tour * Ford African Rain Forest
3:00 PM	Board buses for return to Walden School
3:30 PM	Launch model rockets
5:00 - 5:30 PM	Pick up campers at Walden School

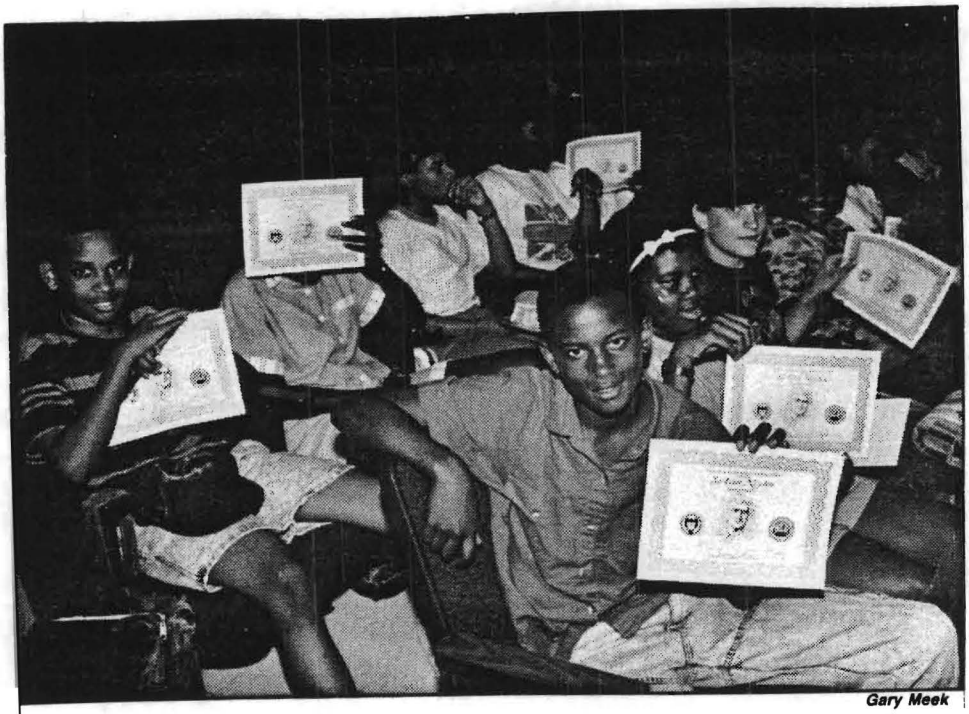
THURSDAY, JUNE 21

8:00 AM	Drop off campers at Walden School **MAKE SURE YOU ARRIVE AT WALDEN BY 8:00!**
8:15 AM (Eastern Daylight Time)	Buses depart Walden School for Huntsville, Alabama Play space quiz games enroute
11:00 AM (Central Daylight Time)	Arrive at NASA Space Center, Huntsville, Alabama
11:30 AM	Lunch at NASA Space Center **BRING A SACK LUNCH FROM HOME**
12:30 PM	Tour NASA Museum and Exhibit Hall (Involvement with hands-on exhibits)
4:00 PM (Central Daylight Time)	Buses depart NASA Space Center **PIT STOP FOR CAMPERS TO BUY SUPPER** **REMEMBER TO BRING SOME MONEY**
9:00 PM (Eastern Daylight Time)	Arrive at Walden School - Campers return home

FRIDAY, JUNE 22

8:00 - 8:30 AM	Drop off campers at Walden School
8:30 AM	Crew meetings
8:45 AM	Board buses for Fernbank Science Center
9:15 AM	Planetarium Show: "In Search of ET"
10:30 AM	Tour Fernbank Science Center
11:00 AM	Board buses for Georgia Tech
11:30 AM	Picnic lunch: Georgia Tech Wardlaw Center Terrace (Captain Bryan Fortson, U.S. Air Force and PhD student in aerospace engineering at Georgia Tech) DO NOT BRING A LUNCH FROM HOME
1:30 PM	Crews rotate among campus demonstrations, including: * Aerospace engineering: wind tunnel, tail assembly * Mechanical engineering: robotics * Artificial Intelligence: helicopter routes, baseball * Land/Sat computer applications, flight simulation * Olympic computer/video presentation
4:00 PM	Closing ceremonies with Buzz Georgia Tech Student Center Auditorium
4:30 PM	Board buses for return to Walden School
5:00 - 5:30 PM	Pick up campers at Walden School

EXHIBIT 5



Gary Meek

Ninety-four rising sixth through ninth graders received certificates for their participation in the Georgia Tech-Walden Middle School Science/Space Camp on June 22 after a week of fun and learning. The camp's activities featured hands-on activities such as building and launching model rockets. The group also toured space-related research facilities at Tech and took various field trips throughout the Atlanta area and to the NASA Space Center in Huntsville, Ala.

SUMMERSCAPE Ready For Second Season

After an enormously successful debut last summer, Tech is preparing to launch an expanded second season of SUMMERSCAPE, a mathematics and science enrichment program for middle school students. Rising seventh and eighth graders are invited to submit applications for this two-week non-residential program.

The program will be offered in two, two-week sessions: July 9-20 and July 30-Aug. 10. Students will be selected on the basis of their application and the recommendations of their teachers. Space is limited to 40 seventh graders and 40 eighth graders per session.

The cost is $265 and includes all materials, supplies, lunch each day in the Student Center, a SUMMERSCAPE T-shirt, and transportation and admission fees for field trip excursions. Limited financial assistance is available to students who otherwise could not attend this program.

All courses are taught by award-winning high school teachers. Courses offered in the first session will cover photography as a tool of science, energy, the environment and insects. Students in the second session will learn about electrochemistry, optics and physics. Students will also enjoy computer workshops, field trips, and supervised recreation.

Applications are available in the Administration Building, Room 306 and are due on *April 6*. For further information, contact Myrna Goldberg in the Office of Academic Research and Support at 4-8994 or at mail code 0330.

EXHIBIT 6

SUMMERSCAPE 1990 STUDENT EVALUATION
SESSION I

Name _____ Grade as of 9/90____

School _____ County _____

Check the appropriate boxes

- ☐ Asian
- ☐ Black
- ☐ White
- ☐ Hispanic
- ☐ Male
- ☐ Female

1. How would you rate the overall program?
   - a. excellent
   - b. good
   - c. fair
   - d. poor

2. What did you think of the courses? Check the appropriate box.

	Very interesting	Somewhat interesting	Boring
Photography	☐	☐	☐
Environmental Awareness	☐	☐	☐
Energy	☐	☐	☐
Insects	☐	☐	☐
Computer	☐	☐	☐

3. How would you rate the teachers and student assistants? Check the appropriate box.

	Excellent	Good	Fair	Poor
Ms. Neal	☐	☐	☐	☐
Mr. Cramer	☐	☐	☐	☐
Ms. Krejcarek	☐	☐	☐	☐
Ms. Carter	☐	☐	☐	☐
Ms. Bailey	☐	☐	☐	☐
Ms. Ehrhart	☐	☐	☐	☐
Allison	☐	☐	☐	☐
Walt	☐	☐	☐	☐
C.T.	☐	☐	☐	☐
Leigh Anne	☐	☐	☐	☐

4. What did you like best about the classes?

5. What did you like least?

6. How much computer experience did you have before SUMMERSCAPE?
   - a. a lot
   - b. a little
   - c. not very much
   - d. none

7. Do you have a computer at home?

   Yes No

EXHIBIT 7

GEORGIA TECH SPACE GRANT CONSORTIUM

TOURS OF AEROSPACE ENGINEERING

SPACE CAMP
c/o Tom Hamall
Civic Affairs
June 21, 1990
1:30 p.m. - 2:00 p.m.

CASE
(Career Awareness in Science and Engineering)
c/o Keith Oden
Dean's Office
June 27, 1990
9:30 a.m. - 10:15 a.m

MITE
(Minority Introduction to Engineering)
c/o Cynthia Warner
Dean's Office
July 10 , 1990
6:00 - 6:40 p.m.

MITE
(Minority Introduction to Engineering)
c/o Cynthia Warner
Dean's Office
July 11, 1990
6:00 - 6:40 p.m.

FEW
(Freshman Engineering Workshop)
c/o Keith Oden
Dean's Office
July 12, 1990
9:00 a.m. - 10:45 a.m. (2 Groups)

MITE
(Minority Introduction to Engineering)
c/o Cynthia Warner
Dean's Office
July 24 , 1990
6:00 - 6:40 p.m.

MITE
(Minority Introduction to Engineering)
c/o Cynthia Warner
Dean's Office
July 25, 1990
6:00 - 6:40 p.m.

FEW
(Freshman Engineering Workshop)
c/o Keith Oden
Dean's Office
July 26, 1990
9:00 a.m. - 10:45 a.m. (2 Groups)

Tech Topics
GEORGIA TECH ALUMNI ASSOCIATION
SUMMER 1990
VOLUME 26, NUMBER 4

EXHIBIT 8

Tech Gets NASA Space Grant

NASA has selected Georgia Tech as one of 21 National Space Grant Colleges/ Consortia.

Other members of the consortium are Clark-Atlanta University, Georgia State University and Tuskegee University.

Each consortia will receive up to $225,000 per year for at least five years, and are expected to obtain matching non-federal funds.

The consortia also will receive $100,000 from NASA to support undergraduate and graduate fellowships.

Objectives of the Georgia Institute of Technology Space Grant Consortium are to strengthen aerospace activities and promote awareness of aerospace career opportunities, particularly among women and under-represented minorities.

The consortium will accomplish these objectives through sponsorship of a wide variety of activities and programs throughout the year.

The Space Grant Office, located in the Savant Building on the Georgia Tech campus, is headed by Dr. David Peters, professor of aerospace engineering. ❑

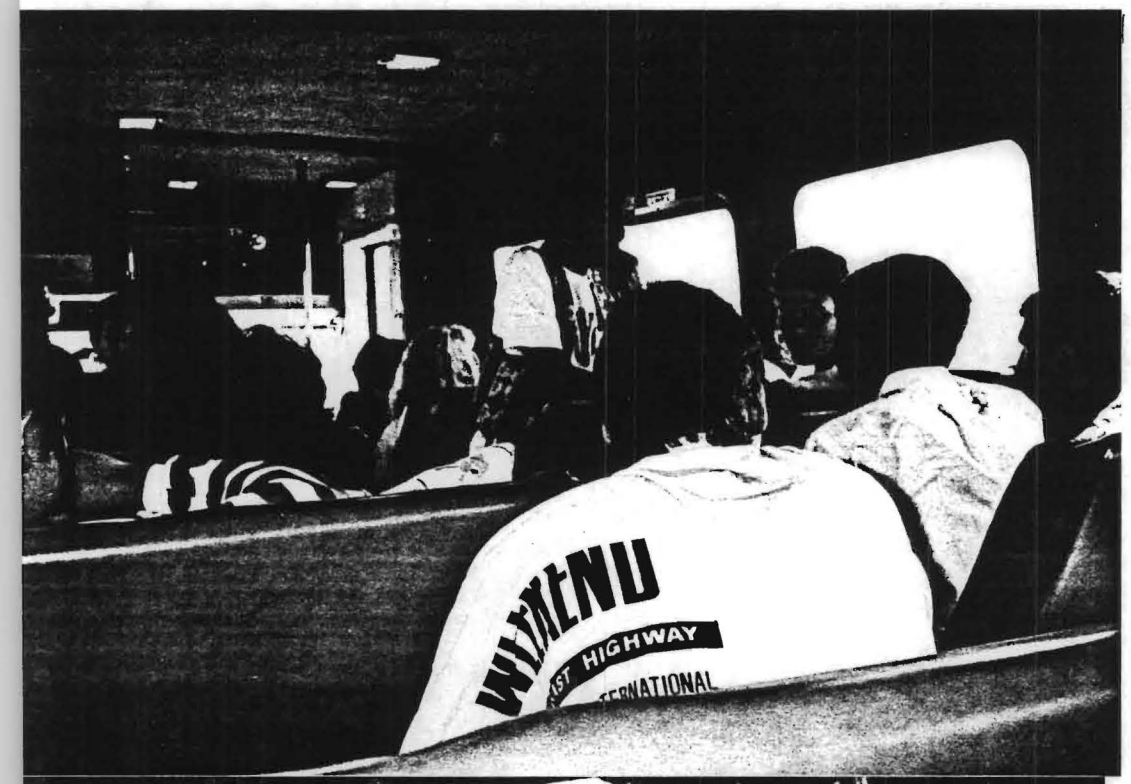
EXHIBIT 9

BUDGET FOR NASA SPACE GRANT CONSORTIUM

FEBRUARY 1, 1991 - January 31, 1992

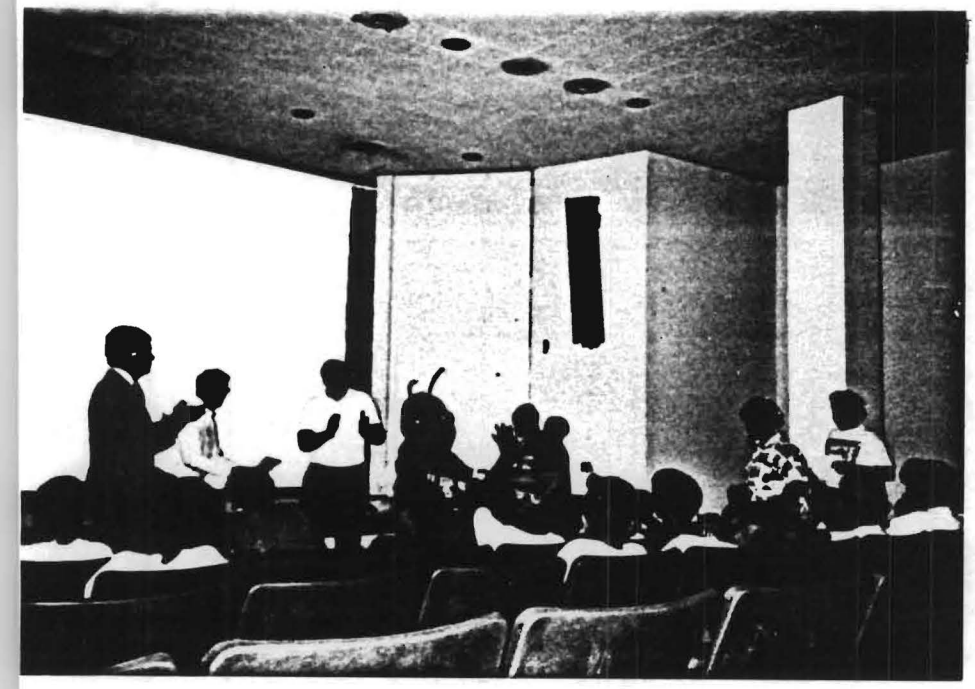
ITEM	TOTAL	NASA GRANT	COST SHARING
PI (25%)	26,796	13,398	13,398
Staff Asst. (100%)	26,256	13,128	13,128
Faculty for Short Course	4,000	3,000	1,000
Fringe Benefits (26.3%)	15,005	7,502	7,503
Travel	6,000	5,000	1,000
Advertising and Supplies	3,000	3,000	0
Space Camp	19,143	9,572	9,571
School Activities	1,500	750	750
24 hours at Tech	5,300	2,650	2,650
Additional Fellowships	10,000	4,500	5,500
Furnishings and computer equipment	8,000	0	8,000
TOTAL GT	**125,000**	**62,500**	**62,500**
SUBCONTRACTS			
Clark Atlanta	50,000	25,000	25,000
Georgia State	50,000	25,000	25,000
Tuskegee	50,000	25,000	25,000
Sub-Total	**275,000**	**137,500**	**137,500**
Overhead (62.5%) on GT and first 25K of each subcontract	125,000	62,500	62,500
TOTAL	**400,000**	**200,000**	**200,000**
Fellowships	100,000	100,000	0
GRAND TOTAL	**500,000**	**300,000**	**200,000**

SPACE CAMP AWARD WINNER FOR
BEST ACHIEVEMENTS



STUDENTS GOING TO
MARSHALL SPACE FLIGHT
CENTER, HUNTSVILLE, AL

MARSHALL SPACE FLIGHT
CENTER, HUNTSVILLE, AL



AWARDS CEREMONY - SPACE CAMP
(Left to Right)
James Langley, VP of Development
Georgia Tech
Tom Hamall, Director, Civic Affai
Georgia Tech
Russ Studevan, Principal, Walden
Middle School
Buzz, Georgia Tech Mascot

Vice President of Georgia Tech
Development, James Langley, gives
congratulations to participants
in Georgia Tech Space Camp

Space Camp Participants showing
off their awards

E16-612
2

NASA

National Aeronautics and
Space Administration

Washington, D.C.
20546

This is what was sent to OCA + a memo. I had spoken to Ina about the computerized report.

OCT 1 1991

Reply to Attn of: XEU

TO: Space Grant Program Directors

FROM: XEU/Richard Devon

SUBJECT: Space Grant Annual Reports

The due date for the annual report is December 15th. This year we will be using an entirely different method of reporting. Last year, we found that, despite the guidelines that were issued, there was a great deal of variation in the form and content of the reports - much more than that due to the substantive differences between the programs themselves. Further, when we had to compile national statistics for the Space Grant program, it was both arduous and inaccurate. So, we have decided to do it electronically.

You should have copies of this.

Thanks
Richard

We are having a data acquisition program written in Clipper, which is a high-level language that is particularly apt for producing on-screen forms. The result will be that a report, in the usual sense, will no longer be produced. Rather, information about the program will be entered directly into the computer. Where more than quantitative and discrete entries may be needed, there will be pop-up windows in which as much textual commentary as desired may be added. When completed, the resultant database will be sent back to us, either on a disk through the mail, or over the networks. When all the reports are in, we will have a database that can be swiftly analyzed for purposes of evaluation and for compiling national statistics. After a little editing, this national database will be shared with all the programs so that they have access to comprehensive information about all the other programs. So, for example, anyone interested in creating an interdisciplinary "gateway" course could immediately find the names, addresses, etc., even mailing labels, of those who had already done this in other programs.

A corollary of this change is that we will no longer ask the program directors to categorize their activities in terms of the five major program goals. This system produced too much cross-referencing. Rather, discrete information describing each activity will be entered. In our database analysis, we will do the "mapping" between program activities and the five goals. So, for example, for underrepresented groups we

National Aeronautics and
Space Administration

Washington, D.C.
20546

JAN 24 1992

Reply to Attn of: FEH

Dear Colleagues:

Enclosed are instructions and materials for submitting your 1991 Space Grant Annual Report electronically. Please return your completed report and suggestions for modifications by Wednesday 25 February 1992.

There are three main goals for these reports and the database constructed for their use: to facilitate the gathering, reduction and dissemination of useful program information to all participants; to enable quick retrieval of national program statistics, in response to requests from the agency, other institutions, Congress, and the public; and, to provide the data which will help in evaluation of the national program as well as individual programs. Two additional databases are planned: a standardized tracking system for Space Grant Fellows; and a standardized budget reporting system.

The usefulness of this approach depends greatly on your feedback as to how the system can be improved.

Thank you for you careful reporting of the data we are requesting and for your improvement suggestions.

Sincerely,

E. Julius Dasch
Program Manager
National Space Grant College
and Fellowship Program

Enclosures

MEMORANDUM

DATE: March 18, 1992

TO: SPACE GRANT PROGRAM DIRECTORS

FROM: RICHARD DEVON, NASA HQ

RE: ANNUAL REPORT

I am assuming that the annual report software is now functioning well enough for you to complete the annual report. We do not know how long it will take you to complete the report, but we should have a deadline. So let's say the end of the month. We really do need to get the data in and to create the national database. This database will be very helpful to all of us.

I do apologize for the software problems which set us back 6 weeks. I feel a little like a ringmaster in a circus who calls in the elephants only to discover that someone had fed them several hundred pounds of apricots a few hours earlier.

There are only two, small, residual problems with the software known to me.

1. In the management section under Consortium Management Expenses there are two columns of figures which add automatically. One entry, that for the affiliate director(s) costs, is not included in the summation for either column. Ignore this, we will correct the summation process here.
2. In the documentation, the Database User Guide, there is an error on page 23. On the first line of the last entry (Money Spent), delete the words "Space Grant."

FOOTNOTE
There have been several requests for a way to produce a hard copy of the report other than using a few hundred "Print Screen" commands. Much as we love, and fear for, the forests of the world we are looking at ways of doing this.

E16-612
3

1992 DATA COLLECTION

COMMUNICATIONS

COPY

NASA

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Name of Consortium:

Name of Institution:

Phase:
- Phase I
- Program Grant
- Capability Enhancement Grant

(Circle One)

SG Institution: Y or N *(Circle One)*

Lead: Y or N *(Circle One)*

Type:
- Four-year college
- Four-year university
- Community college
- State/local government
- Industry
- Non-profit organization
- Other (Please Identify)

(Circle One)

Attributes:
- Historically Black Colleges or Universities
- Other Minority Colleges and Universities
- Women's Colleges
- Academic Institutions for persons with disabilities
- Minority focused organizations
- None

(Circle One)

Name of Contact: ERIAN ARMANIOS

Space Grant Title: DIRECTOR

Department: AEROSPACE

School/College: ENGINEERING

Street 1:

Street 2:

City: ATLANTA

State: GA

Zip: 30332-0150

Telephone: (404) 894-8202

Fax: (404) 894-9313

E-Mail: erian.armanios@aerospace.gatech.edu

Reasearch Interest 1: Composites

Research Interest 2: Structures

Regional Affiliation: (New England, Mid-Atlantic, South Eastern, Mid-Western, Western, None) *(Circle One)*

Other Contact Name: Wanda Pierson-Jeter

Name:

Space Grant Title: Program Coordinator

Department: Aerospace

School/College: Engineering

Street 1:

Street 2:

City: Atlanta

State: GA

Zip: 30332-0150

Telephone: (404) 853-0055

Fax: (404) 894-9313

E-Mail: wanda.piersonjeter@aerospace.gatech.edu

Research Interest 1: Retention/Recuritment

Research Interest 2:

NASA

1992 DATA COLLECTION

COMMUNICATIONS

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Name of Consortium: GEORGIA

Name of Institution: SPELMAN COLLEGE

SG Institution: (Y) or N *(Circle One)*

Phase: (• Phase I)
- Program Grant
- Capability Enhancement Grant

(Circle One)

Lead: Y or (N) *(Circle One)*

Type:
(Four-year college)
Four-year university
Community college
State/local government
Industry
Non-profit organization
Other (Please Identify)
(Circle One)

Attributes:
(Historically Black Colleges or Universities)
Other Minority Colleges and Universities
(Women's Colleges)
Academic Institutions for persons with disabilities
Minority focused organizations
None
(Circle One)

Name of Contact: MAEREAN EVANS

Space Grant Title: CAMPUS DIRECTOR

Department: OFFICE OF SCIENCE, ENGINEERING AND TECHNICAL CAREERS

School/College:

Street 1: 350 SPELMAN LANE

Street 2:

City: ATLANTA State: GA Zip: 30314

Telephone: (404) 215-7719 Fax: (404) 223-1449 E-Mail:

Reasearch Interest 1: OPPORTUNITIES IN SCIENCE ENGINEERING AND TECHNICAL CAREERS FOR AFRICAN AMERICAN WOMEN

Research Interest 2: _____

Regional Affiliation: (New England, Mid-Atlantic, (South Eastern), Mid-Western, Western, None) *(Circle One)*

Other Contact Name:

Name:

Space Grant Title:

Department:

School/College:

Street 1:

Street 2:

City:

State:

Zip:

Telephone:

Fax:

E-Mail:

Research Interest 1: _____

Research Interest 2: _____

NASA

1992 DATA COLLECTION

COMMUNICATIONS

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Name of Consortium: GEORGIA

Name of Institution: TUSKEGEE

SG Institution: (Y) or N *(Circle One)*

Phase: • ~~Phase I~~
• Program Grant
• Capability Enhancement Grant
(Circle One)

Lead: Y or (N) *(Circle One)*

Type:
Four-year college
(Four-year university)
Community college
State/local government
Industry
Non-profit organization
Other (Please Identify)
(Circle One)

Attributes:
(Historically Black Colleges or Universities)
Other Minority Colleges and Universities
Women's Colleges
Academic Institutions for persons with disabilities
Minority focused organizations
None
(Circle One)

Name of Contact: PHIL LORETAN

Space Grant Title: CAMPUS DIRECTOR

Department: AGRICULTURAL EXPERIMENT STATION

School/College: AGRICULTURE AND HOME ECONOMICS

Street 1:

Street 2:

City: TUSKEGEE

State: ALABAMA

Zip: 36088

Telephone: (205) 727-8458

Fax: (205) 727-8333

E-Mail:

Reasearch Interest 1: Hydroponics

Research Interest 2: Materials and Structures

Regional Affiliation: (New England, Mid-Atlantic, South Eastern, Mid-Western, Environmental Western, None) *(Circle One)*

Other Contact Name: CARLTON MORRIS

Name:

Space Grant Title: CAMPUS CO-DIRECTOR

Department: AGRICULTURE

School/College: AGRICULTURE AND HOME ECONOMICS

Street 1:

Street 2:

City: TUSKEGEE

State: ALABAMA

Zip: 36088

Telephone: (205) 727-8458

Fax: (205) 727-8333

E-Mail:

Research Interest 1: HYDROPONICS

Research Interest 2:

1992 DATA COLLECTION

COMMUNICATIONS

NASA

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Name of Consortium: GEORGIA

Name of Institution: CLARK ATLANTA

SG Institution: (Y) or N *(Circle One)*

Phase: (• Phase I)
• Program Grant
• Capability Enhancement Grant
(Circle One)

Lead: (Y) or N *(Circle One)*

Type:
Four-year college
(Four-year university)
Community college
State/local government
Industry
Non-profit organization
Other (Please Identify)
(Circle One)

Attributes:
(Historically Black Colleges or Universities)
Other Minority Colleges and Universities
Women's Colleges
Academic Institutions for persons with disabilities
Minority focused organizations
None
(Circle One)

Name of Contact: DR. KOFI BOIA

Space Grant Title: CAMPUS DIRECTOR

Department: VICE PRESIDENT OF RESEARCH AND SPONSORED PROGRAMS

School/College:

Street 1: JAMES P. BRAWLEY AT FAIR STREET

Street 2:

City: ATLANTA State: GA Zip: 30314

Telephone: (404) 880-8595 Fax: (404) 880-8522 E-Mail:

Reasearch Interest 1: STRUCTURES/COMPOSITES MATERIALS

Research Interest 2: ENVIRONMENTAL SCIENCE

Regional Affiliation: (New England, Mid-Atlantic, (South Eastern), Mid-Western, Western, None) *(Circle One)*

Other Contact Name:

Name:

Space Grant Title:

Department:

School/College:

Street 1:

Street 2:

City: State: Zip:

Telephone: Fax: E-Mail:

Research Interest 1: _____

Research Interest 2: _____

NASA

1992 DATA COLLECTION

COMMUNICATIONS

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Phase: • **Phase I** • Program Grant • Capability Enhancement Grant *(Circle One)*

Name of Consortium: GEORGIA

Name of Institution: GEORGIA STATE

SG Institution: (Y) or N *(Circle One)*

Lead: Y or (N) *(Circle One)*

Type: Four-year college / (Four-year university) / Community college / State/local government / Industry / Non-profit organization / Other (Please Identify) *(Circle One)*

Attributes: Historically Black Colleges or Universities / Other Minority Colleges and Universities / Women's Colleges / Academic Institutions for persons with disabilities / Minority focused organizations / None *(Circle One)*

Name of Contact: DR. CLEON ARRINGTON

Space Grant Title: CAMPUS DIRECTOR

Department: VICE PRESIDENT OF RESEARCH

School/College:

Street 1: UNIVERSITY PLAZA

Street 2:

City: ATLANTA State: GA Zip: 30303

Telephone: (404) 651-3157 Fax: (404) 651-4436 E-Mail:

Reasearch Interest 1: ASTRONOMY Research Interest 2: EDUCATION

Regional Affiliation: (New England, Mid-Atlantic, South Eastern, Mid-Western, Western, None) *(Circle One)*

Other Contact Name:

Name:

Space Grant Title:

Department:

School/College:

Street 1:

Street 2:

City: State: Zip:

Telephone: Fax: E-Mail:

Research Interest 1: _____ Research Interest 2: _____

1992 DATA COLLECTION

STATEMENT OF INCOME AND EXPENDITURES

NASA

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

NAME OF CONSORTIUM: GEORGIA

	CASH	OTHER	TOTAL
INCOME:			
NASA Space Grant Funds			$ 320,000
Other Federal Funds			$ -0-
Carryover Funds			$ -0-
SUB-TOTAL			$ 320,000
NON-FEDERAL/MATCHING FUNDS:			
Lead Institution	$ 77,400	$ -0-	$ 77,400
Academic Affiliates	75,000	-0-	75,000
State/Local Government	-0-	-0-	-0-
Industry	-0-	-0-	-0-
Non-Profit Organizations	-0-	-0-	-0-
Other (Please Identify)	-0-	-0-	-0-
TOTAL NON-FEDERAL FUNDS	$152,400	-0-	152,400
TOTAL INCOME			$472,400
EXPENSES			
Direct Labor (Salaries, wages, and Fringe Benefits)			$ 112,377
Travel			17,848
Supplies/Services			161,505
Other Direct Costs			1,000
Other Student Support			20,500
Indirect Costs			59,170
Fellowships/Scholarships			100,000
Sub-Contracts			-0-
TOTAL EXPENSES			$ 472,400
BALANCE/DIFFERENCE			-0-

1992 DATA COLLECTION

EXPENDITURE BREAKDOWN BY PROGRAM

NASA

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

NAME OF CONSORTIUM: GEORGIA SPACE GRANT

EXPENSES:	TOTAL
Research Infrastructure	$18,000
Higher Education	$55,591
K - 12	$67,473
General Public	$ 7,662
External Relations	$ 8,000
Consortium Administrative Costs	$ 152,871
Indirect Costs	$ 62,803
Fellowships/Scholarships	$ 100,000
TOTAL	$ 472,400

1992 DATA COLLECTION

MANAGEMENT

NASA

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

PLANNING:

Consortium description, mission, objectives, major accomplishments and future direction.

Development of strategic plan.

Any proposed changes in current operations. Yes

Has a strategic plan been developed for the program? Y/N Yes

Number of affiliates represented in consortium planning and decision making. 4

Number of non-affiliate organizations represented in consortium planning and decision making. 1

Major disappointment in 1992 Collaboration among consortium members throughout the year should have been much stronger.

BOARD OF DIRECTORS/ADVISORY GROUP:

Description of composition, role and activities. Role of advisory committee/group with respect to technical evaluations of program activities.

Number of persons in advisory committee/group. 4

Number of meetings per year. 2

AFFILIATES:

Current strategy and procedure for recruiting affiliates.

Objectives of cooperation between lead and affiliate institutions, and mutual benefits to be realized.

Factors affecting the gain or loss of affiliates.

Number of affiliates gained during the current reporting period. one

Number of affiliates lost during the current reporting period. zero

Number of organizations which participated or sponsored Space Grant activities, but are not consortium members. four

NASA

List members of consortium which are:

Land Grant Universities

Sea Grant Universities

OFFICE FACILITIES:

Description of Space Grant Program office facilities.

Staffing:

Please list the staffing for the consortium management. For each, show whether they are at the lead or an affiliate, what their total SG FTE is and what their management FTE is. Only list those, who in title or function, have at least some administrative duties. Those who have other Space Grant duties than management will have a total FTE larger than their managerial FTE, otherwise the figures will be the same.

	Number	Total FTE	MNGT FTE
Director	1	15%	10%
Assoc. Directors (Lead)	-0-		
Assoc. Directors (Affils)	3	3-5%	2%
Other Mngt. (Lead)	2	50% (20 hrs)	50% (20 hrs)
Other Mngt (Affils)	1	15% ¼ time	10%
Supervisory/techn (Lead)	1	50% (20 hrs)	
Supervisory/techn (Affils)	0		
Clerical (Lead)	0		
Clerical (Affils)	2		

Please list any new faculty or staff that you have helped procure using the Space Grant Program.

Carlton E. Morris - Tuskegee (researcher - Space agriculture)
Dr. Ashraf Badir - Georgia Tech (research on Clark Atlanta/Georgia Tech joint programs)
David Heusinger - Georgia Consortium (development/public relations)

NASA

Number disseminated during the current reporting period:

Brochures:	250 - 400
Newsletters:	~~x250~~xxx
Posters:	100
Flyers:	5000
Other (please specify):	12,000 - Space Agriculture brochures and Applications for summer programs

Description of plans to increase the visibility of the Program and generate inquiries.

Other publicity (specify).

OTHER

Please note any other development accomplishments.

We have several outstanding proposals to

The Southern Regional Education Board
The National Science Foundation

NASA

SPACE GRANT LEVERAGING ACTIVITIES

Space Grant is a seed money program. Please list additional money that you gained (A) in 1992 (for the present and future) over and above your budget submitted for 1992. Also, list funds that were budgeted but did not materialize (B).

	A) Gained	B) Lost
Source		
Lead		
Affiliate		
State/Local		
Industry	251,275 (materials only)	
Non-Profit Organizations		
Other Federal	526,176 (over a five year period - contract begins January 1993)	
TOTAL	777,451	

Please note if the losses drove you below the required match.

Give a brief account of the most significant gains and losses.

Contribution by Rolls Royce Inc of a Metal Matrix Shell for Space Grant fellows' research

What are you pursuing at the moment?

Pharmaceutical companies and Westinghouse.

PUBLICITY:

Space grant events reported in the media during the current reporting period:

	Newspapers	Radio	Television
Campus media	2	0	1
Local media	0	0	1
State	0	0	1
National	0	0	1
International	0	0	1

NASA

1992 Data Collection
Fellowships and Scholarships

NASA Space Grant Fellowship funds are to be used for students only. They may be awarded to graduate students, in which case they are termed fellowships, or to undergraduate students, termed scholarships. The criteria (recruitment and selection), duration, purposes, activities, and amount are at the discretion of the consortium, and should be within defined objectives.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

The following information is requested for both fellowship and scholarship program in the consortium. Fellowship and scholarship data should be provided as separate programs.

Name of fellowship or scholarship program: NASA Space Grant Fellowship - Tuskegee

Contact person: Phil Loretan

Space Grant Institution(s) distributing awards: Tuskegee

Sponsor(s) (if other than affiliate):

Level: __ Graduate _x_ Undergraduate
If graduate, number of doctoral students: none

Number of students applied: 13

Number of fellowship or scholarship awards:
Number of awards less than $800: _____
Number of awards greater than $800: 3

Typical amount of award: $6500 (one year tuition)

Duration: 9 Months

Briefly state recruitment strategies: On campus flyers and flyers sent to other HBCUs.

Briefly state selection procedures: Space Grant Coordinator, Deans of Schools of Agriculture and Home Economics and School of Engineering and Architecture make the determinations.

Briefly state award criteria: U.S. Citizens, financial need, academic achievement, interest in Tuskegee University's NASA research.

Describe the use of role models and mentors for underrepresented minority students.

As an HBCU we utilize our outstanding students to mentor younger African-American students.

Participant representation of awardees:

	Number of Male	Number of Female	Number of Persons w/ Disabilities
African - American	1	2	
Hispanic			
Native American			
Pacific Islander			
All Other Recipients			

NASA

Provide a bibliography for any publications, articles, etc., written by fellowship/scholarship recipients.

List research topics of fellowship/scholarship recipients.

Please indicate the purpose(s) for the fellowship award:

- X Target underrepresented groups
- X Reward excellence
- X Attract student to science/engineering
- __Attract student to research
- __Attract student to design
- __Attract student to teaching
- __*Support interdisciplinarity
- X Critical economic need
- __Other (please specify)

* *Interdisciplinarity is characteristic of those research projects (or areas of study) in which there exists an innovative and/or non-traditional combination of theory and practice involving two or more disciplines.*

Indicate expected fellowship activities:

- __Travel
- X Independent Study
- __Teaching
- __Research
- __Design Project
- __Internship with Industry/Government
- __Social Service
  - -Mentoring (K-12 or college students)
  - -Other (please specify)
- __Other Activities (please specify)

NASA

$19,444.50 - undergraduate
$16,492.40 - graduate

Total money awarded: $_____

Break down the total money awarded as follows:

NASA Space Grant: $ $30,000	Industry: $ 5,936.90
Lead Institution: $	Non-Profit Organizations: $
Academic Affiliates: $	Participants: $
State Government: $	Non-Federal: $
Other: $	Other Federal: $

Additional comments:

NASA

1992 Data Collection
Fellowships and Scholarships

NASA Space Grant Fellowship funds are to be used for students only. They may be awarded to graduate students, in which case they are termed fellowships, or to undergraduate students, termed scholarships. The criteria (recruitment and selection), duration, purposes, activities, and amount are at the discretion of the consortium, and should be within defined objectives.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

The following information is requested for both fellowship and scholarship program in the consortium. Fellowship and scholarship data should be provided as separate programs.

Name of fellowship or scholarship program: NASA Space Grant Fellowship - Tuskegee

Contact person: Phil Loretan

Space Grant Institution(s) distributing awards: Tuskegee

Sponsor(s) (if other than affiliate):

Level: X Graduate ___ Undergraduate
If graduate, number of doctoral students: none

Number of students applied: 10

Number of fellowship or scholarship awards:
Number of awards less than $800: 0
Number of awards greater than $800: 2

Typical amount of award: $6500 (one year tuition)

Duration: 9 Months

Briefly state recruitment strategies: On campus flyers and flyers sent to other HBCUs.

Briefly state selection procedures: Space Grant Coordinator, Deans of Schools of Agriculture and Home Economics and School of Engineering and Architecture make the determinations.

Briefly state award criteria: U.S. Citizens, financial need, academic achievement, interest in Tuskegee University's NASA research.

Describe the use of role models and mentors for underrepresented minority students.

As an HBCU we utilize our outstanding students to mentor younger African-American students.

Participant representation of awardees:

	Number of Male	Number of Female	Number of Persons w/ Disabilities
African - American	1	1	
Hispanic			
Native American			
Pacific Islander			
All Other Recipients			

TUSKEGEE

NASA

Provide a bibliography for any publications, articles, etc., written by fellowship/scholarship recipients.

List research topics of fellowship/scholarship recipients.

Please indicate the purpose(s) for the fellowship award:

- x Target underrepresented groups
- __Reward excellence
- X Attract student to science/engineering
- X Attract student to research
- __Attract student to design
- __Attract student to teaching
- __*Support interdisciplinarity
- __Critical economic need
- __Other (please specify)

** Interdisciplinarity is characteristic of those research projects (or areas of study) in which there exists an innovative and/or non-traditional combination of theory and practice involving two or more disciplines.*

Indicate expected fellowship activities:

- __Travel
- __Independent Study
- __Teaching
- X Research
- __Design Project
- __Internship with Industry/Government
- __Social Service
  - -Mentoring (K-12 or college students)
  - -Other (please specify)
- __Other Activities (please specify)

NASA

$19,444.50 - undergraduate
$16,492.40 - graduate

Total money awarded: $_____

Break down the total money awarded as follows:

NASA Space Grant: $ $30,000	Industry: $ 5,936.90
Lead Institution: $	Non-Profit Organizations: $
Academic Affiliates: $	Participants: $
State Government: $	Non-Federal: $
Other: $	Other Federal: $

Additional comments:

NASA

1992 Data Collection

Fellowships and Scholarships

NASA Space Grant Fellowship funds are to be used for students only. They may be awarded to graduate students, in which case they are termed fellowships, or to undergraduate students, termed scholarships. The criteria (recruitment and selection), duration, purposes, activities, and amount are at the discretion of the consortium, and should be within defined objectives.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

The following information is requested for both fellowship and scholarship program in the consortium. Fellowship and scholarship data should be provided as separate programs.

Name of fellowship or scholarship program: GEORGIA SPACE GRANT

Contact person: Cleon Arrington

Space Grant Institution(s) distributing awards: Georgia State University

Sponsor(s) (if other than affiliate):

Level: X Graduate __Undergraduate
If graduate, number of doctoral students: 4

Number of students applied:

Number of fellowship or scholarship awards:
Number of awards less than $800:
Number of awards greater than $800: 4

Typical amount of award: $8000 per year

Duration: 12 Months

Briefly state recruitment strategies: Notified eligible department chairs of availability and participant requirements.

Briefly state selection procedures: Reviewed applicant data supplied by department chairs. Selection procedures are the same as university requirements for state funding

Briefly state award criteria: American citizens, areas of research, gradepoint average; career goals.

Describe the use of role models and mentors for underrepresented minority students. All students are from underrepresented groups and are in a number of support groups such as the National Assoc of Black Chemists and Chemical Engineers and the American Assn of University Women, etc.

Participant representation of awardees:

	Number of Male	Number of Female	Number of Persons w/ Disabilities
African - American	1	0	
Hispanic	0	1	
Native American	0	0	
Pacific Islander	0	0	
All Other Recipients	0	2	

GEORGIA STATE

NASA

Provide a bibliography for any publications, articles, etc., written by fellowship/scholarship recipients.

NONE

List research topics of fellowship/scholarship recipients.

Please indicate the purpose(s) for the fellowship award:

- x Target underrepresented groups
- __Reward excellence
- __Attract student to science/engineering
- __Attract student to research
- __Attract student to design
- __Attract student to teaching
- __*Support interdisciplinarity
- __Critical economic need
- __Other (please specify)

** Interdisciplinarity is characteristic of those research projects (or areas of study) in which there exists an innovative and/or non-traditional combination of theory and practice involving two or more disciplines.*

Indicate expected fellowship activities:

- __Travel
- __Independent Study
- __Teaching
- X Research
- x Design Project
- __Internship with Industry/Government
- __Social Service
  - -Mentoring (K-12 or college students)
  - -Other (please specify)
- __Other Activities (please specify)

Research topics: Physical Studies of MethylPhophonate, Phosphorothioate and 2'-O-methyl analogs of Ribo-and Deoxyribonucleic acis.

Purification and structural characterization of manoprotein and galactoxylomannan of cryptococcus neoformans.

Synthesis and characterization of nitrogen containing heterocycles with potential antiviral activity.

NASA

GEORGIA STATE

Total money awarded: $ 30,000

Break down the total money awarded as follows:

NASA Space Grant: $ 30,000	Industry: $
Lead Institution: $ 20,000	Non-Profit Organizations: $
Academic Affiliates: $	Participants: $
State Government: $	Non-Federal: $
Other: $	Other Federal: $

Additional comments: The funding overlaps from year to year, and all students do not start at the same time. It would be easier to break this down by individual student and tell the time frame that they would be funded for.

NASA

1992 Data Collection

Fellowships and Scholarships

NASA Space Grant Fellowship funds are to be used for students only. They may be awarded to graduate students, in which case they are termed fellowships, or to undergraduate students, termed scholarships. The criteria (recruitment and selection), duration, purposes, activities, and amount are at the discretion of the consortium, and should be within defined objectives.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

The following information is requested for both fellowship and scholarship program in the consortium. Fellowship and scholarship data should be provided as separate programs.

Name of fellowship or scholarship program: GEORGIA SPACE GRANT

Contact person: Erian Armanios

Space Grant Institution(s) distributing awards: Georgia Tech

Sponsor(s) (if other than affiliate):

Level: X Graduate __Undergraduate
If graduate, number of doctoral students:

Number of students applied: 32

Number of fellowship or scholarship awards:
Number of awards less than $800: -0-
Number of awards greater than $800: 10

Typical amount of award: 6600 per year

Duration: _____ Months until completion of Ph.D.

Briefly state recruitment strategies: We advertise through the Black Graduate Student Assn, Nat'l Society of Black Engineers, Fraternities, Sororities, Graduate Office, Publications, and open houses.

Briefly state selection procedures: We require 3 academic references and we select students based on the criteria below. The consortium selects all students.

Briefly state award criteria: U.S. Citizen; area of research; target degree; career goals; gradepoint average; financial need.

Describe the use of role models and mentors for underrepresented minority students. All of our fellowship students are used as role models and mentors because they are underrepresented minority students who have succeeded because they had role models and mentors.

Participant representation of awardees:

	Number of Male	Number of Female	Number of Persons w/ Disabilities
African - American	6	1	
Hispanic	1	0	
Native American	0	0	
Pacific Islander	0	0	
All Other Recipients		2	

GEORGIA TECH

NASA

Provide a bibliography for any publications, articles, etc., written by fellowship/scholarship recipients.

List research topics of fellowship/scholarship recipients.

Please indicate the purpose(s) for the fellowship award:

- _X_ Target underrepresented groups
- __ Reward excellence
- __ Attract student to science/engineering
- _X_ Attract student to research
- __ Attract student to design
- _X_ Attract student to teaching
- __ *Support interdisciplinarity
- __ Critical economic need
- __ Other (please specify)

** Interdisciplinarity is characteristic of those research projects (or areas of study) in which there exists an innovative and/or non-traditional combination of theory and practice involving two or more disciplines.*

Indicate expected fellowship activities:

- _X_ Travel
- __ Independent Study
- _X_ Teaching
- _X_ Research
- __ Design Project
- __ Internship with Industry/Government
- _X_ Social Service
  - -Mentoring (K-12 or college students)
  - -Other (please specify)
- __ Other Activities (please specify)

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM

NASA

GEORGIA TECH

Total money awarded: $ 10,000

Break down the total money awarded as follows:

NASA Space Grant: $ 10,000	**Industry: $**
Lead Institution: $ 10,500	**Non-Profit Organizations: $**
Academic Affiliates: $	**Participants: $**
State Government: $	**Non-Federal: $**
Other: $	**Other Federal: $**

Additional comments: The funding overlaps from year to year, and all students do not start at the same time. It would be easier to break this down by individual student and tell the time frame that they would be funded for.

NASA

1992 Data Collection

Fellowships and Scholarships

NASA Space Grant Fellowship funds are to be used for students only. They may be awarded to graduate students, in which case they are termed fellowships, or to undergraduate students, termed scholarships. The criteria (recruitment and selection), duration, purposes, activities, and amount are at the discretion of the consortium, and should be within defined objectives.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

The following information is requested for both fellowship and scholarship program in the consortium. Fellowship and scholarship data should be provided as separate programs.

Name of fellowship or scholarship program: GEORGIA SPACE GRANT

Contact person: Kofi Bota

Space Grant Institution(s) distributing awards: Clark Atlanta

Sponsor(s) (if other than affiliate):

Level: _x_Graduate __Undergraduate
If graduate, number of doctoral students:

Number of students applied: 15

Number of fellowship or scholarship awards:
Number of awards less than $800:
Number of awards greater than $800: nine

Typical amount of award: 4,000

Duration: 1 yr __ Months

Briefly state recruitment strategies: Advertising in the different schools and colleges in the Atlanta University Center (which has 4 other HBCUs) and area high schools

Briefly state selection procedures: Referred by department heads or counselors to Dr. Bota.

Briefly state award criteria: U.S. Citizens, area of study, GPA, career goals, financial need.

Describe the use of role models and mentors for underrepresented minority students. We are an HBCU that is strongly in favor of providing mentors for our students as they matriculate through the university. We find that students who have mentors have higher retention rates.

Participant representation of awardees:

	Number of Male	Number of Female	Number of Persons w/ Disabilities
African - American	4	5	
Hispanic			
Native American			
Pacific Islander			
All Other Recipients			

NASA

Provide a bibliography for any publications, articles, etc., written by fellowship/scholarship recipients.

none

List research topics of fellowship/scholarship recipients.

Please indicate the purpose(s) for the fellowship award:

- X Target underrepresented groups
- __Reward excellence
- X Attract student to science/engineering
- X Attract student to research
- __Attract student to design
- X Attract student to teaching
- __*Support interdisciplinarity
- X Critical economic need
- __Other (please specify)

** Interdisciplinarity is characteristic of those research projects (or areas of study) in which there exists an innovative and/or non-traditional combination of theory and practice involving two or more disciplines.*

Indicate expected fellowship activities:

- X Travel
- __Independent Study
- X Teaching
- X Research
- __Design Project
- __Internship with Industry/Government
- X Social Service
  - -Mentoring (K-12 or college students)
  - -Other (please specify)
- __Other Activities (please specify)

NASA

CLARK ATLANTA

Total money awarded: $30,000

Break down the total money awarded as follows:

NASA Space Grant: $ 30,000	Industry: $
Lead Institution: $	Non-Profit Organizations: $
Academic Affiliates: $	Participants: $
State Government: $	Non-Federal: $
Other: $	Other Federal: $

Additional comments: The funding overlaps from year to year, and all students do not start at the same time. It would be easier to break this down by individual student and tell the time frame that they would be funded for.

NASA

1992 Data Collection

Research Infrastructure

The term "research infrastructure" refers to all the organizational factors that promote the development and maintenance of research in an organization. These factors include seed money for research, release time for proposal writing, the use of facilities, the establishment of research collaborations, computer services, and equipment. Research infrastructure also encompasses graduate student research activity funded by other than Space Grant Fellowship funds.

For each Research Infrastructure program, please provide the following information.

REPORTING PERIOD: **January 1, 1992** *to* **December 31, 1992**

Program name: GEORGIA SPACE GRANT

Contact person: ERIAN ARMANIOS

Space Grant Institution: GEORGIA TECH/MORRIS BROWN COLLEGE

Name of sponsor(s): {if other than affiliate}

Program status:
- X Created by Space Grant
- __Supplemented by Space Grant
- __Taken over by Space Grant

Program stage:
- X New program
- __Continuing support begun in year

Program activity objectives {briefly state): An administrator/professor from Morris Brown College (HBCU) and a professor from Georgia Tech have teamed to write proposals to obtain funding for a joint program between GT and Morris Brown.

Description of program {briefly state): If funding is awarded Morris Brown will enhance their faculty development, equipment enhancement and curriculum development and develop partnership with GT College of Computing

Evaluation mechanisms in place:
- __Yes
- X No

Description of methodology, outcomes, significant benefits, and conclusions: Benefits will be the increase in opportunities for African Americans in the areas of Computing and Information Sciences

Collaborative efforts {check all that apply}
- __In Same Department
- __Other Department(s) in Same Institution
- X Other Institution(s) of Higher Education
- __K-12 Institution(s)
- __Industry
- __NASA Center(s)
- X Other Federal Government
- __Non-Profit Organization(s)
- __Other Space Grant Program(s)
- X Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

How did these efforts expand the involvement of underrepresented minority persons?
Stated above

NASA

Using Appendix 1, please note:
Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

Total cost of program: $ 7,406
Amount paid to date: $ 3,900 Balance to be paid: $ 3,506

Break down the total cost of the program as follows:

NASA Space Grant: $ $3900	Industry: $
LEAD Institution: $ 3506	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Target:
{Provide numbers}

X Faculty	__Post-Doc
x Graduate student	__Administrator
X Other potential faculty	

Activity:
{Provide numbers}

1 Seed money for research	2 Travel to present paper
1 Travel to attend conference or workshop	1 Establish research collaboration
__Visiting scholar	__Hold conference or workshop
3 Proposal preparation	__Technical writing services
__Student assistant	__Computer services
2 Develop information resources for research opportunities	

Output - papers
{Provide numbers}

1 Papers presented	1 Papers submitted to refereed journals
__Papers accepted by refereed journals	__Papers published by refereed journals

Output - proposals
{Provide numbers}

	Submitted	Funded
NASA		
Other Federal	one	one
Industry		
State/local Govt.		
Non-profit		
In-house		

Output - patents, copyrights, other:
{Provide numbers and a brief description}

1992 Data Collection

Research Infrastructure

The term "research infrastructure" refers to all the organizational factors that promote the development and maintenance of research in an organization. These factors include seed money for research, release time for proposal writing, the use of facilities, the establishment of research collaborations, computer services, and equipment. Research infrastructure also encompasses graduate student research activity funded by other than Space Grant Fellowship funds.

NASA

For each Research Infrastructure program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: CO-OP/GEORGIA TECH

Contact person: ERIAN ARMANIOS

Space Grant Institution: GEORGIA

Name of sponsor(s): (if other than affiliate)

Program status:
_x_ Created by Space Grant and ROLLS ROYCE
__ Supplemented by Space Grant
__ Taken over by Space Grant

Program stage:
_X_ New program
__ Continuing support begun in year

Program activity objectives (briefly state): To provide equipment for advanced student research.

Description of program (briefly state): Rolls Royce provided the consortium with a metal matrix shell for use in research for graduate students in the area of composites.

Evaluation mechanisms in place:
__ Yes
_x_ No

Description of methodology, outcomes, significant benefits, and conclusions:

Benefits - Exposure to materials used in industry and application of knowledge to problems.

Collaborative efforts (check all that apply)

__ In Same Department
__ Other Department(s) in Same Institution
__ Other Institution(s) of Higher Education
__ K-12 Institution(s)
_x_ Industry
__ NASA Center(s)
__ Other Federal Government
__ Non-Profit Organization(s)
__ Other Space Grant Program(s)
__ Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

How did these efforts expand the involvement of underrepresented minority persons?

The consortium is making an effort to attract underrepresented minorities to this area of resea

NASA

Using Appendix 1, please note:
Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

Total cost of program: $ 550 per quarter for each student
Amount paid to date: $ 3300 # Balance to be paid: $ undetermined at this time

Break down the total cost of the program as follows:

NASA Space Grant: $ -0-	Industry: $ 3300 +
LEAD Institution: $ -0-	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Target:
{Provide numbers}

__Faculty	__Post-Doc
3 Graduate student	__Administrator
__Other	

Activity:
{Provide numbers}

__Seed money for research	__Travel to present paper
__Travel to attend conference or workshop	__Establish research collaboration
__Visiting scholar	__Hold conference or workshop
__Proposal preparation	__Technical writing services
__Student assistant	__Computer services
__Develop information resources for research opportunities	

Output - papers
{Provide numbers}

1 Papers presented	1 Papers submitted to refereed journals
1 Papers accepted by refereed journals	__Papers published by refereed journals

Output - proposals
{Provide numbers}

	Submitted	Funded
NASA		
Other Federal		
Industry		
State/local Govt.		
Non-profit		
In-house		

Output - patents, copyrights, other:
{Provide numbers and a brief description}

NASA

DIRECTOR'S REPORT ON RESEARCH INFRASTRUCTURE

This page need only be completed one time. It summarizes and encompasses all research infrastructure building activities.

This page assesses changes in climate for research at consortium institutions. Indicators of climate for research include more space, more equipment, more in-house funding, more release time, better sponsored programs office, better computer services, more rewards for research in promotion, research stressed more in recruitment.

Please check off any changes in the research climate of the consortium institutions funded:

- /More space
- /More equipment
- /More in-house funding
- /More release time
- /Better sponsored program services
- /Better computer services
- __More rewards for research in promotion
- __Research stressed more in recruitment

Please add your comments about the research infrastructure activities and results. How successful were they? What seems to work best? What did not work well? What changes will you make next year?

1992 Data Collection

Research Infrastructure

The term "research infrastructure" refers to all the organizational factors that promote the development and maintenance of research in an organization. These factors include seed money for research, release time for proposal writing, the use of facilities, the establishment of research collaborations, computer services, and equipment. Research infrastructure also encompasses graduate student research activity funded by other than Space Grant Fellowship funds.

NASA

For each Research Infrastructure program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: GEORGIA SPACE GRANT

Contact person: ATEF GHOBRIAL

Space Grant Institution: GEORGIA STATE

Name of sponsor(s): {if other than affiliate}

Program status:
X Created by Space Grant
__Supplemented by Space Grant
__Taken over by Space Grant

Program stage:
_x New program
__Continuing support begun in year

Program activity objectives {briefly state}: Seed money to write proposals for research in aviation.

Description of program {briefly state}: Dr. Ghobrial (GSU) and 5 Georgia Tech faculty members have teamed to write interdisciplinary proposals to examine such topics as human factors in aviation, aviation terrorism and safety.

Evaluation mechanisms in place: __Yes
x No

Description of methodology, outcomes, significant benefits, and conclusions:

Significant benefit would be funding for research which would supplement students and professors.

Collaborative efforts {check all that apply}

__In Same Department
__Other Department(s) in Same Institution
x Other Institution(s) of Higher Education
__K-12 Institution(s)
x Industry
__NASA Center(s)
x Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
x Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

How did these efforts expand the involvement of underrepresented minority persons?
Funding received from proposal writing will in part fund minority students.

NASA

Using Appendix 1, please note:

Primary discipline: Aerospace

If applicable:

Secondary discipline: Psychology

Tertiary discipline:

Total cost of program: $ 6500

Amount paid to date: $ 2325 Balance to be paid: $ 4175

Break down the total cost of the program as follows:

NASA Space Grant: $ 3500
LEAD Institution: $ 3000
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Target:

{Provide numbers}

x Faculty
x Graduate student
x Other undergraduate students
__Post-Doc
__Administrator

Activity:

{Provide numbers}

x Seed money for research
x Travel to attend conference or workshop
__Visiting scholar
x Proposal preparation
__Student assistant
x Develop information resources for research opportunities
__Travel to present paper
x Establish research collaboration
__Hold conference or workshop
__Technical writing services
__Computer services

Output - papers

{Provide numbers}

1 Papers presented
__Papers accepted by refereed journals
__Papers submitted to refereed journals
__Papers published by refereed journals

Output - proposals

{Provide numbers}

	Submitted	Funded
NASA	1	0
Other Federal	2	0
Industry		
State/local Govt.		
Non-profit		
In-house		

Output - patents, copyrights, other:

{Provide numbers and a brief description}

1992 Data Collection

Research Infrastructure

The term "research infrastructure" refers to all the organizational factors that promote the development and maintenance of research in an organization. These factors include seed money for research, release time for proposal writing, the use of facilities, the establishment of research collaborations, computer services, and equipment. Research infrastructure also encompasses graduate student research activity funded by other than Space Grant Fellowship funds.

NASA

For each Research Infrastructure program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: CLARK ATLANTA/GEORGIA TECH RESEARCH COLLABORATION: ARO

Contact person: KOFI BOTA

Space Grant Institution: Clark Atlanta/Georgia Tech

Name of sponsor(s): (if other than affiliate) Army Research Office (ARO)

Program status:
__Created by Space Grant
_x_Supplemented by Space Grant
__Taken over by Space Grant

Program stage:
_x_New program
__Continuing support begun in year

Program activity objectives (briefly state): Faculty exchange and student research opportunities.

Description of program (briefly state): Students from CAU, which is an HBCU, will come to Georgia Tech to gain a research opportunity in various areas of aerospace engineering.

Evaluation mechanisms in place: _x_Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions:

Students gain research, and faculty have an opportunity to enhance and share their own research

Collaborative efforts (check all that apply)

_x_In Same Department
_x_Other Department(s) in Same Institution
_x_Other Institution(s) of Higher Education
__K-12 Institution(s)
__Industry
__NASA Center(s)
_x_Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
_x_Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

How did these efforts expand the involvement of underrepresented minority persons?

Clark Atlanta is a Historically Black Institution and is the main contractor.

NASA

Using Appendix 1, please note:
Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

Total cost of program: $526,176 was awarded
Amount paid to date: $ 0 Balance to be paid: $ 526,176

Break down the total cost of the program as follows:

NASA Space Grant: $	Industry: $
LEAD Institution: $	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $ 526,176
Other: $	

Target:
{Provide numbers}

x Faculty	__Post-Doc
x Graduate student	x Administrator
x Other	

Activity:
{Provide numbers}

__Seed money for research	x Travel to present paper
__Travel to attend conference or workshop	x Establish research collaboration
__Visiting scholar	__Hold conference or workshop
__Proposal preparation	__Technical writing services
x Student assistant	x Computer services
__Develop information resources for research opportunities	

Output - papers
{Provide numbers}

0 Papers presented	0 Papers submitted to refereed journals
0 Papers accepted by refereed journals	0 Papers published by refereed journals

Output - proposals
{Provide numbers}

	Submitted	Funded
NASA	0	0
Other Federal	0	0
Industry	0	0
State/local Govt.	0	0
Non-profit	0	0
In-house	0	0

Output - patents, copyrights, other:
{Provide numbers and a brief description}

NASA

1992 Data Collection

Higher Education Programs

Higher education programs are those taking place at the collegiate level and encompass those activities which serve students, faculty, and/or the institution. Activities include, but are not limited to, curriculum development, design and implementation of new major and minor areas of study, hands-on activities, conferences, other student support (exclusive of scholarships; including undergraduate, but not graduate level) research related activities, and workshops as well as the development and dissemination of software, problem sets, videos, publications, and labs. Higher education programs are excellent vehicles for Space Grant to promote the use of mentors and role models as well as establish interdisciplinary courses and centers.

For each "higher education" program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: BLACK GRADUATE STUDENT BANQUET

Contact person: WANDA PIERSON JETER

Space Grant Institution: GEORGIA TECH

Name of sponsor(s): {if other than affiliate} OFFICE OF THE DEAN

Status: __Developing X__Implemented

Program was:
__Created by Space Grant
X Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}: To recognize outstanding Black Graduate Students for achievement in academics

Evaluation mechanism in place: __Yes
x No

Description of methodology, outcomes, significant benefits, and conclusions:
Students have complained that their efforts are ignored, we are attempting to remedy this problem

Collaborative efforts {check all that apply}
__In Same Department
x Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
__K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
x Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $$925.00

Amount paid to date $925.00 Balance to be paid $ 0

Break down the total cost of the program as follows:

NASA Space Grant: $ 0
LEAD Institution: $ 425.00
Academic Affiliate(s): $
State/Local Government: $
Other: $ 500.00

Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration:
_1_ days
____ weeks
____ months
____ not applicable

Frequency:
_x_ Annual Frequency
__ One Time Only
__ Not Applicable

Academic level of target audience (may be one or more):

__ Faculty
__ Undergraduate
_x_ Graduate
__ Other (specify)

Student development activities: {check all that apply}

__ Career guidance/recruitment/retention/mentoring
__ Coop/intern experience
__ Other Student Support (specify)
__ Conferences/Meeting
x Other (specify) Recognition of accomplishments

Institutional development activities:

__ New major
__ New minor or emphasis
__ New center

Faculty development activities:

(specify)

NASA

Course development activities:
{specify upper or lower division}
__For Credit
__Seminar
__Independent Study
__Conference/Forum
__Research Experience
__Design Experience
__Hands-on Experience
__Multidisciplinary
__Other (specify)

New curricular materials and activities:
__Course Outline
__Course Revision
__Lab
__Lecture
__Software
__Problem Sets
__Demonstration/lab tour
__Video
__Book
__Other (specify)

Other characteristics and products:

__Publications (provide bibliography)
__Poster Session
__Exhibit

Plans for dissemination of above?__Yes x__No
If yes, please describe.

Total number of participants: Graduate Students and Audience (not counted)

NASA

{Please provide estimates where possible.}

Number of male students served: 87

	Number of Males	Number of Persons with Disabilities
African-American	87	n/a
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of female students served: 16

	Females	Persons with Disabilities
African-American	16	
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of male faculty served: _____

	Number of Males	Number of Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of female faculty served: _____

	Number of Females	Number of Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

NASA

Please describe any use of role models from underrepresented groups or curricular content which reflects the experiences, achievements and culture of underrepresented groups.

Using Appendix 1, please note:
Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

GARRY HARRIS, THE PRESIDENT OF THE ATLANTA CHAPTER OF THE NATIONAL TECHNICAL ASSOCIATION WAS THE BANQUET SPEAKER. GARRY IS AN AFRICAN AMERICAN ENGINEER WHO WORKS FOR THE NUCLEAR REGULATORY COMMISSION AND IS A WELL KNOWN COMMUNITY LEADER. GARRY ENCOURAGED THE BLACK GRADUATE STUDENTS AT TECH TO CONTINUE THEIR PURSUIT OF ADVANCED DEGREES.

NASA

1992 Data Collection
Higher Education Programs

Higher education programs are those taking place at the collegiate level and encompass those activities which serve students, faculty, and/or the institution. Activities include, but are not limited to, curriculum development, design and implementation of new major and minor areas of study, hands-on activities, conferences, other student support (exclusive of scholarships; including undergraduate, but not graduate level) research related activities, and workshops as well as the development and dissemination of software, problem sets, videos, publications, and labs. Higher education programs are excellent vehicles for Space Grant to promote the use of mentors and role models as well as establish interdisciplinary courses and centers.

For each "higher education" program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: BLACK GRADUATE STUDENT MIXER

Contact person: WANDA PIERSON-JETER

Space Grant Institution: GEORGIA TECH

Name of sponsor(s): {if other than affiliate}

Status: __Developing X Implemented

Program was:
__Created by Space Grant
X Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}: To introduce Black Graduate Students to faculty, and administrators and provide network opportunities.

Evaluation mechanism in place: __Yes
x No

Description of methodology, outcomes, significant benefits, and conclusions:

Students were able to form bonds and networks which we hope will aid in retention factor.

Collaborative efforts {check all that apply}

__In Same Department
__Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
__K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
X Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 185.00
Amount paid to date $ 185.00 Balance to be paid $ 0

Break down the total cost of the program as follows:

NASA Space Grant: $ 185.00
LEAD Institution: $
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration:
1 days
____weeks
____months
____not applicable

Frequency:
1 Annual Frequency
__One Time Only
__Not Applicable

Academic level of target audience (may be one or more):

x Faculty
__Undergraduate
x Graduate
x Other (specify) administrators

Student development activities: {check all that apply}

x Career guidance/recruitment/retention/mentoring
__Coop/intern experience
__Other Student Support (specify)
__Conferences/Meeting
__Other (specify)

Institutional development activities:

__New major
__New minor or emphasis
__New center

Faculty development activities:

(specify)

NASA

Course development activities:
{specify upper or lower division}
__For Credit
__Seminar
__Independent Study
x Conference/Forum
__Research Experience
__Design Experience
__Hands-on Experience
__Multidisciplinary
__Other (specify)

New curricular materials and activities:
__Course Outline
__Course Revision
__Lab
__Lecture
__Software
__Problem Sets
__Demonstration/lab tour
__Video
__Book
X Other (specify) Will be an annual event for the purpose of retention

Other characteristics and products:

__Publications (provide bibliography)
__Poster Session
__Exhibit

Plans for dissemination of above?__Yes x No
If yes, please describe.

Total number of participants: 103 graduate students and guests (# unknown)

NASA

{Please provide estimates where possible.}

Number of male students served: 87

	Number of Males	Number of Persons with Disabilities
African-American	87	
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of female students served: 16

	Females	Persons with Disabilities
African-American	16	
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of male faculty served: _____

	Number of Males	Number of Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of female faculty served: _____

	Number of Females	Number of Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM

NASA

Please describe any use of role models from underrepresented groups or curricular content which reflects the experiences, achievements and culture of underrepresented groups.

Using Appendix 1, please note:

Primary discipline:

If applicable:

Secondary discipline:

Tertiary discipline:

ACTIVITY SPONSORED WAS FOR BLACK GRADUATE STUDENTS AS AN AID TO INCREASE RETENTION. ALL BLACK PROFESSORS AND ADMINISTRATORS FROM GEORGIA TECH ATTEND THESE EVENTS TO ENCOURAGE GRADUATE STUDENTS.

1992 Data Collection
Higher Education Programs

NASA

Higher education programs are those taking place at the collegiate level and encompass those activities which serve students, faculty, and/or the institution. Activities include, but are not limited to, curriculum development, design and implementation of new major and minor areas of study, hands-on activities, conferences, other student support (exclusive of scholarships; including undergraduate, but not graduate level) research related activities, and workshops as well as the development and dissemination of software, problem sets, videos, publications, and labs. Higher education programs are excellent vehicles for Space Grant to promote the use of mentors and role models as well as establish interdisciplinary courses and centers.

For each "higher education" program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: GEORGIA SPACE GRANT

Contact person: CARLTON E. MORRIS

Space Grant Institution: TUSKEGEE UNIVERSITY

Name of sponsor(s): (if other than affiliate)

Status: X Developing __Implemented

Program was:
__Created by Space Grant
X Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives (briefly state): TO TRAIN STUDENT TEACHERS IN HYDROPONIC METHODS TO USE AS A MEANS FOR TRAINING CLASSES ABOUT GROWING FOOD FOR LONG-TERM SPACE MISSIONS.

Evaluation mechanism in place: X Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions:
Students receive exposure to Spinoffs of space research and learn about an exciting new field of study.

Collaborative efforts (check all that apply)
__In Same Department
X Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
__K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
__Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 1591

Amount paid to date $ 1591 Balance to be paid $ 0

Break down the total cost of the program as follows:

NASA Space Grant: $ 1591
LEAD Institution: $
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration:
____days
__6__weeks
____months
____not applicable

Frequency:
_x_Annual Frequency
__One Time Only
__Not Applicable

Academic level of target audience (may be one or more):

__Faculty
__Graduate
x__Undergraduate
__Other (specify)

Student development activities: {check all that apply}

__Career guidance/recruitment/retention/mentoring
__Coop/intern experience
__Other Student Support (specify)
__Conferences/Meeting
_x_Other (specify)

Institutional development activities:

__New major
_x_New minor or emphasis
__New center

Faculty development activities:

(specify)

NASA

Course development activities:
{specify upper or lower division}
- x For Credit
- __Seminar
- __Independent Study
- __Conference/Forum
- __Research Experience
- __Design Experience
- x Hands-on Experience
- __Multidisciplinary
- __Other (specify)

New curricular materials and activities:
- __Course Outline
- __Course Revision
- __Lab
- __Lecture
- __Software
- __Problem Sets
- __Demonstration/lab tour
- x Video
- __Book
- x Other (specify) demostration for use in the classroom

Other characteristics and products:

- __Publications (provide bibliography)
- __Poster Session
- __Exhibit

Plans for dissemination of above? x Yes __No
If yes, please describe.

Total number of participants: 2 students teachers during 1992 - but affects on each school population where they were doing student teaching.

NASA

{Please provide estimates where possible.}

Number of male students served: 2 student teachers - 100's of students

	Number of Males	Number of Persons with Disabilities
African-American	approx. 50% of student body	
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of female students served: 100's of students

	Females	Persons with Disabilities
African-American	approx. 50% of student body	
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of male faculty served: _____

	Number of Males	Number of Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

Number of female faculty served: _____

	Number of Females	Number of Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All Other Persons		

NASA

Please describe any use of role models from underrepresented groups or curricular content which reflects the experiences, achievements and culture of underrepresented groups.

Both student teachers were male African Americans.

Using Appendix 1, please note:

Primary discipline: Vocational Education

If applicable:

Secondary discipline: Sciences - Chemistry, biology

Tertiary discipline:

1992 Data Collection

General Public Programs

General Public refers to those programs involving the name, personnel, and facilities of the university or college running the program that serve the public at large. Examples are courses, lectures, and science fairs that target the general public and educational programs that are run on TV or radio. They refer to science and technology-based programs and activities which serve industry, state/local government, non-profit organizations, and the general public. They are designed to stimulate broad interest in various scientific areas and these activities generally occur outside a formal education setting.

NASA

For each "General Public" program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: NASA Space Grant

Contact person: Philip A. Loretan

Space Grant Institution(s): Tuskegee University

Name of sponsor(s): (if other than affiliate) Atlanta Parks and Recreation Program
Atlanta Flower Show

Status: __Developing X Implemented

Program was:
__Created by Space Grant
X Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives (briefly state): to orient the general public to the teams effort required in growing food for for long-term space missions.

Evaluation X Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions. Use of demonstrations to show teamwork required for growing food for long-term space missions.
Increase in interest of the public. All participants will complete surveys.

This program was designed to promote (check all that apply):
X Interaction between parents and children
__Knowledge of community resources
X General interest in science and technology

The activity was:
X Issue driven
X Driven by a specific discipline area

Please briefly state the issue or discipline.

The Atlanta Flower Show was a horticulture display and growing food for long-term space missions fit directly into that theme. The show was well-attended and had extensive media coverage.

NASA

Total cost of program: $ 2,862 Cost of "Space Agriculture" brochures
Amount paid to date: $ 2,862 Balance to be paid: $_____

Break down the total cost of the program as follows:

NASA Space Grant: $ 2,862	Industry: $
LEAD Institution: $	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
- ____days
- 1 weeks
- ____months
- ____continuing activity

Frequency:
- __Annual frequency
- X One time only
- __Not applicable

Note target audience(s) and the estimated number reached:

X Pre-K	X Adult
X K-6	__Other (specify)
X 7-12	

Components: (check all which apply)

__Lecture	__Field Trip	__On campus
__Tour	__NASA Select	__Course
__Hands-on	X Exhibit	__Poster
X Demonstration	__Extension	__Science fair
__Videotape/film	X Television	__Essay/article
__Radio	X Print	
__Other (Specify)		

NASA

Total number of participants: 40,000

Please estimate the number served (if possible):

	Number of Males	Number of Persons with Disabilities
African-American Hispanic Pacific-Islander Native American All Other Persons	18,000 (approximate only)	

	Number of Females	Number of Persons with Disabilities
African-American Hispanic Pacific-Islander Native American All Other Persons	22,000 (approximate only)	

Did this activity utilize Land Grant extension agents? __Yes x No
Please Describe

Did this activity utilize Sea Grant Marine Advisory personnel? __Yes x No
Please Describe

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: ALPHA KAPPA ALPHA SORORITY HIGH SCHOOL BANQUET

Contact Person: WANDA PIERSON JETER

Space Grant Institution(s): GEORGIA TECH

Name of sponsor(s): {if other than affiliate}

Status: __Developing X_Implemented

Program was:
__Created by Space Grant
X_Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state): To provide scholarships for young African-American female high school students.

Evaluation mechanism in place: x_Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.
African American females receive financial support that they may have not been able to obtain elsewhere.

Collaborative efforts {check all that apply}
__In Same Department
__Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
X_K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
X_Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 1200

Amount paid to date: $1200 Balance to be paid: $ 0

Break down the total cost of the program as follows:

NASA Space Grant: $ 600	Industry: $
LEAD Institution: $ 600	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
1 days
____weeks
____months

Frequency:
1 Annual frequency:
__One time only:
__Not applicable:

Scheduling:
x School Year
__During School
__After School
__Weekend
__Summer

Target audience:
x Students
__Teachers
__Administrators
__Students and Teachers
x Parents

Total number of participants: 200

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12	10	65

Number of parents approximately 100

NASA

Number of administrators 10

Demographics of Participants:

	Males	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	65	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

__Conference __Workshop
__Science Fair/Exhibit __Academic Program
_x_Other (specify) scholarship banquet

This program was designed to promote {check all that apply}:

Students:
__Increase awareness
_x_Expand knowledge/skills
__Career guidance

Teachers:
_x_Increase awareness of scholarships
__Expand knowledge
__Improve teaching methods

Components:

__Hands On __Research __Role Models
__Mentors __Field Trips __Course Outline
__Course Revision __Lab __Lesson Plan
__Software __Problem Sets __Demonstration
__Lab Tour __Video __Book
_x_Other (Specify) scholarships _x_Role models for underrepresented groups

Using Appendix 1, please note:

Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: GEORGIA SPACE GRANT

Contact Person: PHIL LORETAN

Space Grant Institution(s): TUSKEGEE UNIVERSITY

Name of sponsor(s): {if other than affiliate} U.S. DEPT. OF ENERGY AND NAVY AS WELL AS INDUSTRY

Status: __Developing X_Implemented

Program was:
__Created by Space Grant
_XSupplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state): TO PREPARE HIGH SCHOOL STUDENTS FOR COLLEGE, WITH SPECIAL EMPHASIS ON SCIENCE, MATH AND PRE ENGINEERING, THROUGH A # OF PROGRAMS TAILORED TO STUDENTS'S CLASSIFICATION

Evaluation mechanism in place: X_Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions. STUDENTS ARE OFFERED COURSES IN MATH SCIENCE AND ENGINEERING WITH SPACE GRANT ASSISTANCE FOR TRAVEL.

Collaborative efforts {check all that apply}
__In Same Department
_XOther Department(s) in Same Institution
__Other Institution(s) of Higher Education
__K-12 Institution(s)
_XIndustry
_XNASA Center(s)
_XOther Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
__Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 222,000
Amount paid to date: $_____ Balance to be paid: $_____

Break down the total cost of the program as follows:

NASA Space Grant: $ 7000	Industry: $ 90,000
LEAD Institution: $	Non-Profit Organization: $ 25,000
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $100,000
Other: $	

Duration:
____days
6-8 weeks
____months

Frequency:
x Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
x Summer
x During School - summer school
__After School
__Weekend

Target audience:
x Students
__Students and Teachers
__Teachers
__Parents
__Administrators

Total number of participants: over 200

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		200

Number of parents_____

NASA

Number of administrators 2

Demographics of Participants:

	Males	Persons with Disabilities
African-American	100	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	100	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
_xOther (specify)
__Workshop
x_Academic Program

This program was designed to promote {check all that apply}:

Students:
- x_Increase awareness
- x_Expand knowledge/skills
- x_Career guidance

Teachers:
- __Increase awareness
- __Expand knowledge
- __Improve teaching methods

Components:

x_Hands On
__Mentors
x_Course Revision
x_Software
x_Lab Tour
x_Other (Specify)
NASA Center Tour
_xResearch
_xField Trips
_xLab
_xProblem Sets
_xVideo
_xRole models for underrepresented groups
_xRole Models
_xCourse Outline
_xLesson Plan
_xDemonstration
_xBook

Using Appendix 1, please note:

Primary discipline: Mathematics
If applicable:
Secondary discipline: Engineering
Tertiary discipline: Chemistry and Biology

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

NASA

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Advanced Science Space Camp

Contact Person: Cleon C. Arrington

Space Grant Institution(s): Georgia State University

Name of sponsor(s): {if other than affiliate}

Status: __Developing X Implemented

Program was: __Created by Space Grant
X Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}: Strengthening Student Interest in Mathematics, Science, and Technology

Evaluation mechanism in place: X Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.
Students become part of a pilot program that will track students through high school. Program will be coordinated by the graduate students in the School of Education.

Collaborative efforts {check all that apply}

__In Same Department
__Other Department(s) in Same Institution
X Other Institution(s) of Higher Education
X K-12 Institution(s)
X Industry
__NASA Center(s)
__Other Federal Government
X Non-Profit Organization(s)
__Other Space Grant Program(s)
__Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 5,000*
Amount paid to date: $ 5,000 Balance to be paid: $ 0

Break down the total cost of the program as follows:

NASA Space Grant: $ 5,000
LEAD Institution: $
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration: 6 days
____weeks
____months

Frequency: X Annual frequency:
__One time only:
__Not applicable:

Scheduling: __School Year
X Summer
__During School
__After School
__Weekend

Target audience:

__Students
__Teachers
__Administrators
X Students and Teachers
__Parents

Total number of participants: 10**

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		

Number of parents_____

* Funds provided to the camp from Georgia State University.
** Individuals supported from Georgia State University.

NASA

Number of administrators_____

Demographics of Participants:

	Males	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons	8	

	Females	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons	2	

Activities: (Check all which apply)

x Conference
x Science Fair/Exhibit
__Other (specify)
x Workshop
x Academic Program

This program was designed to promote (check all that apply):

Students:
- x Increase awareness
- x Expand knowledge/skills
- x Career guidance

Teachers:
- x Increase awareness
- x Expand knowledge
- x Improve teaching methods

Components:

x Hands On	x Research	x Role Models
x Mentors	x Field Trips	x Course Outline
__Course Revision	__Lab	__Lesson Plan
__Software	x Problem Sets	x Demonstration
__Lab Tour	__Video	__Book
__Other (Specify)	__Role models for underrepresented groups	

Using Appendix 1, please note:

Primary discipline:

If applicable:

Secondary discipline:

Tertiary discipline:

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

NASA

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: NASA Space Grant

Contact Person: Philip A. Loretan

Space Grant Institution(s): Tuskegee University

Name of sponsor(s): (if other than affiliate) Sometimes - Macon County Board of Education

Status: __Developing x_Implemented

Program was: _xCreated by Space Grant
__Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives (briefly state): To make students, teachers and parents more aware of team effort (science and engineering) involved with growing food for long-term space missions.

Evaluation mechanism in place: x_Yes Only verbal :
__No

Description of methodology, outcomes, significant benefits, and conclusions. Tours of laboratories where visitors can see the experiments being carried out.

Collaborative efforts (check all that apply)

- x In Same Department
- x Other Department(s) in Same Institution
- __Other Institution(s) of Higher Education
- __K-12 Institution(s)
- __Industry
- __NASA Center(s)
- __Other Federal Government
- __Non-Profit Organization(s)
- __Other Space Grant Program(s)
- __Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 7,473
Amount paid to date: $ 7,473 Balance to be paid: $_____

Break down the total cost of the program as follows:

NASA Space Grant: $ 7,473	Industry: $
LEAD Institution: $	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
____days
____weeks
____months

Frequency:
X Annual frequency:
__One time only:
__Not applicable:

Scheduling:
X School Year __Summer
X During School
__After School
__Weekend

Target audience:
__Students X Students and Teachers
__Teachers X Parents
__Administrators

Total number of participants: _____

	Number of Teachers	Number of Students
Grades 1-5	5	100
Grades 6-8	2	50
Grades 9-12	3	75

Number of parents 30

NASA

Number of administrators 1-part-time

Demographics of Participants:

	Males	Persons with Disabilities
African-American	50%	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	50%	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
_X_Other (specify) Tour
__Workshop
__Academic Program

This program was designed to promote {check all that apply}:

Students:
_X_Increase awareness
_X_Expand knowledge/skills
_X_Career guidance

Teachers:
_X_Increase awareness
_X_Expand knowledge
__Improve teaching methods

Components:

__Hands On
__Mentors
__Course Revision
__Software
_X_Lab Tour
__Other (Specify)
__Research
_X_Field Trips
__Lab
__Problem Sets
_X_Video
_X_Role models for underrepresented groups
__Role Models
__Course Outline
__Lesson Plan
__Demonstration
__Book

Using Appendix 1, please note:

Primary discipline: Space Agriculture - Hydroponics
If applicable:
Secondary discipline: Plant physiology and chemistry
Tertiary discipline: Engineering

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: "So What Makes This Thing Fly?"

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): (if other than affiliate) Georgia Institute of Technology

Status: __Developing _X_Implemented

Program was:
_X_ Created by Space Grant
__ Supplemented by Space Grant
__ Taken Over by Space Grant

Program activity objectives (briefly state):

To expose students to aerospace engineering.

Evaluation mechanism in place: _X_Yes __No

Description of methodology, outcomes, significant benefits, and conclusions.

This class was designed for students who are interested in aerospace engineering, but not sure of what an aerospace engineer does. This class serves that purpose.

Collaborative efforts (check all that apply)

__ In Same Department
_X_ Other Department(s) in Same Institution
__ Other Institution(s) of Higher Education
_X_ K-12 Institution(s)
__ Industry
__ NASA Center(s)
__ Other Federal Government
__ Non-Profit Organization(s)
__ Other Space Grant Program(s)
_X_ Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 1,000
Amount paid to date: $ 1,000 Balance to be paid: $ 0

Break down the total cost of the program as follows:

NASA Space Grant: $
LEAD Institution: $ 1,000
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration:
____days
2 weeks
____months

Frequency:
2 Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
X During School
__After School
__Weekend
X Summer

Target audience:
X Students
__Teachers
__Administrators
__Students and Teachers
__Parents

Total number of participants: 17

	Number of Teachers	Number of Students
Grades 1-5	---	---
Grades 6-8	---	---
Grades 9-12	---	18

Number of parents 0

NASA

Number of administrators 3

Demographics of Participants:

	Males	Persons with Disabilities
African-American	11	ø
Hispanic	ø	ø
Pacific-Islander	ø	ø
Native American	ø	ø
All other persons		

	Females	Persons with Disabilities
African-American	6	ø
Hispanic	ø	ø
Pacific-Islander	ø	ø
Native American	ø	ø
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
__Other (specify)
X Workshop
__Academic Program

This program was designed to promote {check all that apply}:

Students:
X Increase awareness
X Expand knowledge/skills
X Career guidance

Teachers:
__Increase awareness
__Expand knowledge
__Improve teaching methods

Components:

X Hands On
X Mentors
__Course Revision
__Software
X Lab Tour
__Other (Specify)
__Research
X Field Trips
__Lab
X Problem Sets
X Video
X Role models for underrepresented groups
__Role Models
__Course Outline
__Lesson Plan
X Demonstration
X Book

Using Appendix 1, please note:
Primary discipline: Aerospace
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: "What Goes Up, Must Come Down"

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): (if other than affiliate) Georgia Institute of Technology

Status: __Developing X Implemented

Program was:
X Created by Space Grant
__Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives (briefly state):
To expose to students to physics.

Evaluation mechanism in place: X Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions. This class was designed for students interested in pursuing physics at the college level. This class gave students information that high school counselors were not able to provide.

Collaborative efforts (check all that apply)
__In Same Department
X Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
X K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
X Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 1,100
Amount paid to date: $ 1,100 Balance to be paid: $ ø

Break down the total cost of the program as follows:

NASA Space Grant: $	Industry: $
LEAD Institution: $ 1,100	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
____days
6 weeks
____months

Frequency:
1 Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
x Summer
x During School
__After School
__Weekend

Target audience:

x Students	__Students and Teachers
__Teachers	__Parents
__Administrators	

Total number of participants: 14

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		14

Number of parents ø

NASA

Number of administrators 3

Demographics of Participants:

	Males	Persons with Disabilities
African-American	9	Ø
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	5	Ø
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
__Other (specify)
_x_Workshop
__Academic Program

This program was designed to promote {check all that apply}:

Students:
_x_ Increase awareness
_x_ Expand knowledge/skills
_x_ Career guidance

Teachers:
__Increase awareness
__Expand knowledge
__Improve teaching methods

Components:

_x_ Hands On
_x_ Mentors
__Course Revision
__Software
_x_ Lab Tour
__Other (Specify)
__Research
_x_ Field Trips
__Lab
_x_ Problem Sets
_x_ Video
_x_ Role models for underrepresented groups
__Role Models
__Course Outline
__Lesson Plan
_x_ Demonstration
_x_ Book

Using Appendix 1, please note:
Primary discipline: Physics
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: "If It Ain't Broke, Fix It Anyway"

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): (if other than affiliate) Georgia Institute of Technology

Status: __Developing _x_Implemented

Program was:
_x_Created by Space Grant
__Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives (briefly state):
To expose students to mechanical engineering.

Evaluation mechanism in place: _x_Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.

Increase student interest in mechanical engineering, and give hands on experiences.

Collaborative efforts (check all that apply)

__In Same Department
_X_Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
_X_K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
_X_Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 1,650
Amount paid to date: $ 1,650 Balance to be paid: $ Ø

Break down the total cost of the program as follows:

NASA Space Grant: $	Industry: $
LEAD Institution: $ 1,650	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
____days
__2__weeks
____months

Frequency:
__2__Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
__X__Summer
__X__During School
__After School
__Weekend

Target audience:
__X__Students
__Students and Teachers
__Teachers
__Parents
__Administrators

Total number of participants: __12__

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		12

Number of parents__Ø__

NASA

Number of administrators 3

Demographics of Participants:

	Males	Persons with Disabilities
African-American	8	ø
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	4	ø
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
__Other (specify)
X Workshop
__Academic Program

This program was designed to promote {check all that apply}:

Students:
X Increase awareness
X Expand knowledge/skills
X Career guidance

Teachers:
__Increase awareness
__Expand knowledge
__Improve teaching methods

Components:

X Hands On	__Research	__Role Models
X Mentors	X Field Trips	__Course Outline
__Course Revision	__Lab	__Lesson Plan
__Software	X Problem Sets	X Demonstration
X Lab Tour	X Video	X Book
__Other (Specify)	X Role models for underrepresented groups	

Using Appendix 1, please note:
Primary discipline: Mechanical Eng.
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Introduction to Aerospace

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): (if other than affiliate) Georgia Institute of Technology

Status: X Developing ___Implemented

Program was:
X Created by Space Grant
___Supplemented by Space Grant
___Taken Over by Space Grant

Program activity objectives (briefly state):
To train high school teachers to teach aerospace subjects.

Evaluation mechanism in place: X Yes
___No

Description of methodology, outcomes, significant benefits, and conclusions.
Clarifies the various disciplines within aerospace engineering, so that students can make informed choices.

Collaborative efforts (check all that apply)
X In Same Department
___Other Department(s) in Same Institution
___Other Institution(s) of Higher Education
X K-12 Institution(s)
___Industry
___NASA Center(s)
___Other Federal Government
___Non-Profit Organization(s)
___Other Space Grant Program(s)
___Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 800
Amount paid to date: $ 800 Balance to be paid: $ ø

Break down the total cost of the program as follows:

NASA Space Grant: $ 800	Industry: $
LEAD Institution: $	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
____days
1 weeks
____months

Frequency:
1 Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
__During School
__After School
__Weekend
X Summer

Target audience:

__Students	__Students and Teachers
X Teachers	__Parents
__Administrators	

Total number of participants: n/a

	Number of Teachers	Number of Students
Grades 1-5	n/a	
Grades 6-8		
Grades 9-12		

Number of parents n/a

NASA

Number of administrators 2

Demographics of Participants:

	Males	Persons with Disabilities
African-American		
Hispanic	n/a	
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander	n/a	
Native American		
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
__Other (specify)
X Workshop
X Academic Program

This program was designed to promote {check all that apply}:

Students:	Teachers:
__Increase awareness	X Increase awareness
__Expand knowledge/skills	X Expand knowledge
__Career guidance	__Improve teaching methods

Components:

X Hands On	__Research	__Role Models
__Mentors	X Field Trips	X Course Outline
__Course Revision	X Lab	X Lesson Plan
X Software	__Problem Sets	X Demonstration
X Lab Tour	X Video	X Book
__Other (Specify)	__Role models for underrepresented groups	

Using Appendix 1, please note:

Primary discipline: Aerospace
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Space Camps

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): {if other than affiliate} Georgia Institute of Technology and Georgia Youth Science & Technology Center

Status: __Developing x Implemented

Program was:
__Created by Space Grant
x Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}:

To provide summer camp opportunities for rural Georgia students.

Evaluation mechanism in place: x Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.

Motivational program for rural students who are often not exposed to math and science programs.

Collaborative efforts {check all that apply}

__In Same Department
__Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
__K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
x Non-Profit Organization(s)
__Other Space Grant Program(s)
x Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 8,750
Amount paid to date: $ 8,750 Balance to be paid: $

Break down the total cost of the program as follows:

NASA Space Grant: $	Industry: $
LEAD Institution: $ 8,750	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
____days
1 weeks
____months

Frequency:
3 Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
__Summer
X During School
__After School
__Weekend

Target audience:

X Students	__Students and Teachers
__Teachers	__Parents
__Administrators	

Total number of participants: 60

	Number of Teachers	Number of Students
Grades 1-5	12	
Grades 6-8		60
Grades 9-12		

Number of parents Ø

NASA

Number of administrators 2

Demographics of Participants:

	Males	Persons with Disabilities
African-American	10	
Hispanic		
Pacific-Islander		
Native American		
All other persons	18	

	Females	Persons with Disabilities
African-American	5	
Hispanic		
Pacific-Islander		
Native American		
All other persons	27	

Activities: {Check all which apply}

__Conference __Workshop
__Science Fair/Exhibit __Academic Program
X Other (specify) Camp

This program was designed to promote {check all that apply}:

Students:	Teachers:
X Increase awareness	__Increase awareness
X Expand knowledge/skills	__Expand knowledge
__Career guidance	__Improve teaching methods

Components:

X Hands On	__Research	X Role Models
__Mentors	X Field Trips	__Course Outline
__Course Revision	X Lab	__Lesson Plan
__Software	X Problem Sets	X Demonstration
__Lab Tour	X Video	__Book
__Other (Specify)	__Role models for underrepresented groups	

Using Appendix 1, please note:

Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Science Applications International Corporation (SAIC)

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant

Name of sponsor(s): {if other than affiliate} SAIC

Status: __Developing x_Implemented

Program was:
__Created by Space Grant
_x_Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}:
To give a student/teacher team an introduction to Mars Exploration.

Evaluation mechanism in place: _x_Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.
Teacher and student motivation.

Collaborative efforts {check all that apply}
__In Same Department
__Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
_x_K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
__Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 770
Amount paid to date: $ 770 Balance to be paid: $ Ø

Break down the total cost of the program as follows:

NASA Space Grant: $ 770	Industry: $
LEAD Institution: $	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
5 days
____weeks
____months

Frequency:
1 Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
__During School
__After School
__Weekend
X Summer

Target audience:

__Students	X Students and Teachers
__Teachers	__Parents
__Administrators	

Total number of participants: 2

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12	1	1

Number of parents Ø

NASA

Number of administrators 0

Demographics of Participants:

	Males	Persons with Disabilities
African-American	1	
Hispanic		
Pacific-Islander		
Native American		
All other persons	1	

	Females	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
__Other (specify)
X Workshop
X Academic Program

This program was designed to promote {check all that apply}:

Students:
X Increase awareness
X Expand knowledge/skills
X Career guidance

Teachers:
X Increase awareness
X Expand knowledge
X Improve teaching methods

Components:

X Hands On
__Mentors
__Course Revision
__Software
X Lab Tour
__Other (Specify)
X Research
X Field Trips
__Lab
X Problem Sets
X Video
__Role models for underrepresented groups
__Role Models
__Course Outline
__Lesson Plan
X Demonstration
X Book

Using Appendix 1, please note:

Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Summer Teacher Institute

Contact Person: Guy Vickers

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): (if other than affiliate) Southeastern Consortium for Minorities in Engineering (SECME)

Status: __Developing _xImplemented

Program was:
__Created by Space Grant
X_Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives (briefly state):
Summer training institute.

Evaluation mechanism in place: x_Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.

Annual program that encourages teacher excellence.

Collaborative efforts (check all that apply)

__In Same Department
X_Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
X_K-12 Institution(s)
X_Industry
X_NASA Center(s)
X_Other Federal Government
x_Non-Profit Organization(s)
__Other Space Grant Program(s)
X_Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 600
Amount paid to date: $ 600 Balance to be paid: $ 600
Three (3) teachers awarded scholarships, $200 each. :
Break down the total cost of the program as follows:

NASA Space Grant: $ 600
LEAD Institution: $
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration: 3 days
____weeks
____months

Frequency: X Annual frequency:
__One time only:
__Not applicable:

Scheduling: __School Year X Summer
__During School
__After School
__Weekend

Target audience:

__Students
__Teachers
X Administrators
X Students and Teachers
X Parents

Total number of participants: 400

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		

Number of parents not known

NASA

Number of administrators n/a

Demographics of Participants:

	Males	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	3	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

- X Conference
- __Science Fair/Exhibit
- __Other (specify)
- __Workshop
- __Academic Program

This program was designed to promote {check all that apply}:

Students:

- __Increase awareness
- __Expand knowledge/skills
- __Career guidance

Teachers:

- __Increase awareness
- __Expand knowledge
- _x Improve teaching methods

Components:

- __Hands On
- __Mentors
- __Course Revision
- __Software
- __Lab Tour
- __Other (Specify)
- __Research
- __Field Trips
- __Lab
- __Problem Sets
- __Video
- __Role models for underrepresented groups
- __Role Models
- __Course Outline
- __Lesson Plan
- x Demonstration
- __Book

Using Appendix 1, please note:

Primary discipline:

If applicable:

Secondary discipline:

Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Mission to Mars

Contact Person: Doran Baker

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): {if other than affiliate} Rocky Mountain Space Grant

Status: __Developing x Implemented

Program was: x Created by Space Grant
__Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}:
To expose students to feasibility of Mars mission.

Evaluation mechanism in place: x Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.
Heightened student awareness of possible Mars mission.

Collaborative efforts {check all that apply}
__In Same Department
__Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
x K-12 Institution(s)
__Industry
__NASA Center(s)
x Other Federal Government
__Non-Profit Organization(s)
x Other Space Grant Program(s)
__Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 375
Amount paid to date: $ 375 Balance to be paid: $ 375

Break down the total cost of the program as follows:

NASA Space Grant: $	Industry: $
LEAD Institution: $ 375	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration:
5 days
____weeks
____months

Frequency:
X Annual frequency:
__One time only:
__Not applicable:

Scheduling:
__School Year
__During School
__After School
__Weekend
X Summer

Target audience:

X Students	__Students and Teachers
__Teachers	__Parents
__Administrators	

Total number of participants: 1 from Georgia Institute of Technology

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		1

Number of parents 6

NASA

Number of administrators__Ø__

Demographics of Participants:

	Males	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American	1	
Hispanic		
Pacific-Islander		
Native American		
All other persons		

Activities: {Check all which apply}

X Conference
__Science Fair/Exhibit
__Other (specify)
X Workshop
X Academic Program

This program was designed to promote {check all that apply}:

Students:
X Increase awareness
X Expand knowledge/skills
X Career guidance

Teachers:
__Increase awareness
__Expand knowledge
__Improve teaching methods

Components:

X Hands On
__Mentors
__Course Revision
X Software
X Lab Tour
__Other (Specify)
X Research
X Field Trips
X Lab
__Problem Sets
X Video
__Role models for underrepresented groups
__Role Models
__Course Outline
__Lesson Plan
X Demonstration
__Book

Using Appendix 1, please note:
Primary discipline:
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Discover Aerospace

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): {if other than affiliate}

Status: _x_ Developing __ Implemented

Program was:
- _x_ Created by Space Grant
- __ Supplemented by Space Grant
- __ Taken Over by Space Grant

Program activity objectives {briefly state):

To interest students in aerospace engineering.

Evaluation mechanism in place:
- _x_ Yes
- __ No

Description of methodology, outcomes, significant benefits, and conclusions.

Increased college enrollment in aerospace

Collaborative efforts {check all that apply}
- _x_ In Same Department
- __ Other Department(s) in Same Institution
- __ Other Institution(s) of Higher Education
- _x_ K-12 Institution(s)
- __ Industry
- __ NASA Center(s)
- __ Other Federal Government
- __ Non-Profit Organization(s)
- __ Other Space Grant Program(s)
- _x_ Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 200

Amount paid to date: $ 200 Balance to be paid: $ 200

Break down the total cost of the program as follows:

NASA Space Grant: $ 200
LEAD Institution: $
Academic Affiliate(s): $
State/Local Government: $
Other: $
Industry: $
Non-Profit Organization: $
Participants: $
Other Federal: $

Duration: 5 days
____weeks
____months

Frequency: 8 Annual frequency:
__One time only:
__Not applicable:

Scheduling: X School Year __Summer
x During School
__After School
__Weekend

Target audience:

x Students
__Teachers
__Administrators
__Students and Teachers
__Parents

Total number of participants: 10 - 20 per visit

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12	1 per class	10 - 20

Number of parents Ø

NASA

Number of administrators 2

Demographics of Participants:

	Males	Persons with Disabilities
African-American		
Hispanic	varies by school	
Pacific-Islander		
Native American		
All other persons		

	Females	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander	varies by school	
Native American		
All other persons		

Activities: {Check all which apply}

__Conference __Workshop
__Science Fair/Exhibit __Academic Program
_x_Other (specify) lecture series

This program was designed to promote {check all that apply}:

Students:	Teachers:
_x_Increase awareness	_x_Increase awareness
_x_Expand knowledge/skills	_x_Expand knowledge
_x_Career guidance	__Improve teaching methods

Components:

_x_Hands On	_x_Research	_x_Role Models
_x_Mentors	__Field Trips	__Course Outline
__Course Revision	__Lab	__Lesson Plan
__Software	__Problem Sets	_x_Demonstration
__Lab Tour	_x_Video	__Book
__Other (Specify)	_x_Role models for underrepresented groups	

Using Appendix 1, please note:

Primary discipline: Aerospace Engineering
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection

K-12 Programs

K-12 (or precollege) programs and activities enhance and broaden knowledge of both students and teachers, and include teacher preparation and enhancement, curriculum development, and student opportunities. Such activities generally occur in a formal education setting.

For each K - 12 program, please provide the following information.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: Frontiers of Space

Contact Person: Wanda Pierson-Jeter

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): {if other than affiliate}

Status: __Developing X_Implemented

Program was:
X_Created by Space Grant
__Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}:
Summer program for high school students.

Evaluation mechanism in place: __Yes
_xNo

Description of methodology, outcomes, significant benefits, and conclusions.
Heightened awareness of space.

Collaborative efforts {check all that apply}
X In Same Department
__Other Department(s) in Same Institution
__Other Institution(s) of Higher Education
X K-12 Institution(s)
__Industry
__NASA Center(s)
__Other Federal Government
__Non-Profit Organization(s)
__Other Space Grant Program(s)
__Organization(s) Representing Women, Underrepresented Minorities, or Persons with Disabilities

NASA

Total cost of program: $ 500

Amount paid to date: $ 500 Balance to be paid: $ 500

Break down the total cost of the program as follows:

NASA Space Grant: $	Industry: $
LEAD Institution: $ 500	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration: 20 days
____ weeks
____ months

Frequency: __ Annual frequency:
X One time only:
__ Not applicable:

Scheduling: __ School Year X Summer
__ During School
__ After School
__ Weekend

Target audience:

X Students	__ Students and Teachers
__ Teachers	__ Parents
__ Administrators	

Total number of participants: 8

	Number of Teachers	Number of Students
Grades 1-5		
Grades 6-8		
Grades 9-12		8

Number of parents Ø

NASA

Number of administrators 3

Demographics of Participants:

	Males	Persons with Disabilities
African-American	2	
Hispanic		
Pacific-Islander		
Native American		
All other persons	4	

	Females	Persons with Disabilities
African-American		
Hispanic		
Pacific-Islander		
Native American		
All other persons	2	

Activities: {Check all which apply}

__Conference
__Science Fair/Exhibit
X Other (specify) short course
__Workshop
X Academic Program

This program was designed to promote {check all that apply}:

Students:
X Increase awareness
X Expand knowledge/skills
X Career guidance

Teachers:
__Increase awareness
__Expand knowledge
__Improve teaching methods

Components:

X Hands On
X Mentors
__Course Revision
__Software
X Lab Tour
__Other (Specify)
X Research
X Field Trips
__Lab
X Problem Sets
X Video
__Role models for underrepresented groups
X Role Models
__Course Outline
X Lesson Plan
X Demonstration
X Book

Using Appendix 1, please note:

Primary discipline: Aerospace Engineering
If applicable:
Secondary discipline:
Tertiary discipline:

NASA

1992 Data Collection
External Relations

External Programs refer to those programs that involve the name, personnel, and facilities of the university or college that is running the program that serve institutions not covered by K-12 and the General Public sections. Target institutions include industry, federal (non-NASA), state and local government, professional societies, international organizations, and non-profit organizations such as philanthropies. It is expected that the programs will involve the provision of expert advice and/or training. It does not include consulting, which is considered a private arrangement not formally involving the name of the university or the Space Grant program.

REPORTING PERIOD: January 1, 1992 *to* December 31, 1992

Program name: National Technical Association Mentoring Program

Contact Person: Garry Harris

Space Grant Institution(s): Georgia Space Grant Consortium

Name of sponsor(s): {if other than affiliate}

Status: __Developing X Implemented

Program was:
__Created by Space Grant
X Supplemented by Space Grant
__Taken Over by Space Grant

Program activity objectives {briefly state}:
Training African American scientists, engineers, and mathematicians to be mentors.

Description of program {briefly state}: A program designed to encourage and train 25 to 30 mentors. Mentors are trained by sociologists/educators.

Evaluation mechanism in place: X Yes
__No

Description of methodology, outcomes, significant benefits, and conclusions.
Increase in pool of African American mentors.

Indicate the type(s) of institution(s) reached:

GOVT./QUASI-GOVT.	FOR PROFIT	NON-PROFIT
__Federal (non-NASA)	__Industry	_xProfessional societies
__State government	__Small business	__Non-Profit organizations
__Local government	__Agriculture	
__International Organization(s)		

NASA

Total cost of program: $ 2,500
Amount paid to date: $ 1,402 Balance to be Paid $ 1,098

Break down the total cost of the program as follows:

NASA: $	Industry: $
LEAD Institution: $ 1,098	Non-Profit Organization: $
Academic Affiliate(s): $	Participants: $
State/Local Government: $	Other Federal: $
Other: $	

Duration: 1 days / ___weeks / ___months

Frequency: 2 Annual frequency / ___One time only / ___N/A

Describe Target Institution(s): K - 12 school systems
{prompt}

Activities:
__Expert advise/analysis/data
__Research
__Design
X Training
X Workshop/conference
X Establishing communications/collaborations
__Loan of personnel

Was the university or college the provider or the recipient of the service?

__University/college was the provider
__University/college was the recipient
__Reciprocal arrangement
X None of the above. Explain Students receive the benefits which in turn makes everyone recipients.

Using Appendix 1, please note:
Primary discipline:
If applicable
Secondary discipline:
Tertiary discipline:

E-16-612
4

GEORGIA TECH RESEARCH CORPORATION

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
PROGRAM INITIATION DIVISION
ATLANTA, GEORGIA 30332-0420
USA

Telex: 542507 GTRC OCA ATL
Fax: (404) 894-6956

Phone: (404) 894-4817

Refer to: JG/02.105.002.97.012

28 October 1996

NASA Headquarters
Higher Education Branch
Mail Code FEH
Washington, DC 20546-0001

Attention: Ms. Lynn Keffer

Subject: Research Proposal Entitled "Georgia Space Grant Consortium" for the National Space Grant College and Fellowship Program

Reference: Grant No. NGT-40013

Dear Ms. Keffer:

The GEORGIA TECH RESEARCH CORPORATION desires to submit for your consideration the subject proposal prepared by Dr. Erian Armanios, School of Aerospace Engineering, Georgia Institute of Technology. Should additional information be desired, please do not hesitate to contact Dr. Armanios at 404/894-8202 regarding technical matters or the undersigned at 404/894-4817 for administrative concerns.

In the event of an award, we propose that the work be authorized by a supplement to the referenced grant. We appreciate the opportunity of submitting this proposal and look forward to working with you on this project.

Sincerely,

Janis L. Goddard
Contracting Officer

Addressee: Three copies
Enclosure: Proposal - Three copies

PROPOSAL

GEORGIA SPACE GRANT CONSORTIUM

Georgia Institute of Technology (lead Institution)
Clark Atlanta University
Spelman College
Southern Polytechnic State
Kennesaw State University,
Mercer University
Morehouse College
State University of West Georgia
Morris Brown College
Tuskegee University
Atlanta Chapter of the National Technical Association

Submitted to

The National Space Grant College and Fellowship Program

Office of Human Resources and Education
Education Division - Higher Education Branch
NASA HQ
Code FEH
Washington, DC 20546

(February 1, 1997 - January 1, 1998)

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Erian Armanios
Program Director
October 24, 1996

GEORGIA SPACE GRANT CONSORTIUM
Salaries, Wages, and Fringe Benefits
February 1, 1997- January 31, 1998

Georgia Tech
Erian Armanios, Director
1/4 time (10 hours per week) — *$15,964 includes 26.7% fringe benefits*

Wanda Pierson-Jeter, Program Coordinator
full-time (40 hours per week) — *$35,476 includes 26.7% fringe benefits*

Spelman
Faculty — *$2,937*

Tuskegee
Carlton Morris, Associate Professor
1/5 time (8 hours per week)
Summer, 50% (20 hours per week) — *$9,837* includes *16.5% fringe benefits*

West Georgia
Ben De Mayo, Campus Director — *$7,500*

Clark Atlanta
Management — *$12,783*

TOTAL SALARY, WAGES AND FRINGES $84,498

GEORGIA SPACE GRANT CONSORTIUM BUDGET

February 1997- January 1998

	TOTAL	NASA	COST SHARING
MANAGEMENT			
Director	24,819	13,459	11,360
Program Coord.	39,203	31,362	7,841
Add. Support	3,000		3,000
Total Hide			
Fringe Benefits	17,504	11,706	5,798
(Feb thru June 26.7%)			
(July thru Jan 25.7%)			
TRAVEL	6,871	5,550	1,321
MAT & SUPPLIES			
Subsriptions	200		200
Memberships	500		500
Stationery	1,200		1,200
Miscellaneous	600		600
PROGRAMS			
K-12	4,415	4,415	-
Higher Ed	29,317		29,317
EQUIPMENT	5,355		5,355
SUBTOTAL	132,984	66,491	66,491
FELLOWSHIPS	100,000	100,000	
SUBCONTRACTS			
Spelman	30,000	15,000	15,000
Tuskegee	50,000	25,000	25,000
Clark Atlanta	50,000	25,000	25,000
*Morehouse	24,000	12,000	12,000
*Mercer	20,000	10,000	10,000
West Georgia	30,000	15,000	15,000
Southern Tech	50,000	25,000	25,000
*Morris Brown	10,000	5,000	5,000
*Kennesaw	10,000	5,000	5,000
*NTA	4,000	2,000	2,000
SUBTOTAL	278,000	139,000	139,000
OH(Feb thru June 49.5%)	82,267	49,509	32,758
(July thru Jan 49.1)			
*subs with OH			
GRAND TOTAL	$ 593,251	$ 355,000	$ 238,249

* totals may vary slightly due to rounding

GEORGIA SPACE GRANT CONSORTIUM
Estimated Travel Breakdown-
February 1, 1997- January 31, 1998

Georgia Tech		**$5750**
NSTA Conference - Houston, TX		
2 @$308 round trip	$616	
2 Hotel rooms @ $85 for 2 nights	$340	
2 @$35 per day per diem for 2 days	$140	
Women in Engineering Conference - Wash, DC		
2 @ $390 round trip	$780	
2 Hotel rooms @ $95 for 2 nights	$380	
2 @$35 per day per diem for 2 days	$140	
Space Science Education Conference - Boulder, CO		
1 @ $385 round trip	$388	
1 @$35 per day per diem for 2 days	$070	
1 @ $89 per night	$089	
Regional Directiors meeting - location unknown		
Technology in Education Conference - Phoenix, AZ		
1 @$310 round trip	$310	
2 Hotel rooms @ $78 for 3 nights	$234	
1 @$35 per day per diem	$105	
Director's Meeting - location unknown		
Young Astronauts Conference - Washington, DC		
2 @ $390 round trip	$780	
2 Hotel rooms @ $95 for 2 nights	$380	
2 @$35 per day per diem for 2 days	$140	
Southern Tech		**$4249**
NASA Headquarters - Washington, DC		
3 plane trips @$390	$1170	
Kennedy Space Flight Center, Florida		
3 plane trips @$258	$ 774	
National Science Teacher's Assn Conference - Houston		
1 plane and per diem time @ $650	$ 650	
Stennis Flight Center, Mississippi		
1 plane trip @ $426	$ 426	
Additional Conferences - hotel, per diem ($35), hotels	$1229	
Morehouse		**$3600**
3 Speakers from Washington, DC		
3 plane trips @$390	$1170	
3 Hotel rooms @ $85 for 2 nights	$ 255	
5 Students Conference Registration airfare @ $390	$1950	
Additonal fees and per diem	$ 225	

Clark Atlanta University		**$1354**
10 Students Conference Registration @ $75 each	$ 750	
Contribution to htel and per diem for students	$ 604	
Tuskegee University		**$8750**
Trip to Huntsville, AL		
Rental Buses	$3300	
Lodging	$1250	
Tickets	$1200	
8 Students Conference Transportation @ $200 each	$1600	
8 Students Conference Registration @ $50 each	$ 400	
Travel expenses for 8 students	$ 730	
Travel to GSGC 3 times @ .25 mile/360 miles round trip	$ 270	
Mercer		**$1500**
3 Students Conference Registration @$250 each	$ 750	
3 Students travel expenses (per diem $38) and hotels	$ 750	
West Georgia		**$2000**
Travel throughout State for manufacturing facilities		
Avg - 1800 miles @ .25 per mile	$ 450	
Air fair and per diem ($35)	$ 710	
2 Conferences @ $250 each	$ 500	
Hotel @ $85 per night for 4 nights	$ 340	
Spelman		**$2100**
10 Students Conference Registration @ $50 each	$ 500	
10 Students Airfare @ $150 each	$1500	
Per diem for students	$ 100	

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

KENNESAW STATE UNIVERSITY

	NASA FUNDING	COST SHARING
STUDENT STIPENDS		
Student Research	$ 1,000	
Student Mentor	$ 2,000	
Student Travel	$ 1,000	
SALARIES		
Faculty Release Time		$ 2,500
Clerical		$ 1,500
EQUIPMENT		$ 1,000
SUPPLIES	$ 500	
EVALUATIONS	$ 500	
TOTAL	**$ 5,000**	**$ 5,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

CLARK ATLANTA UNIVERSITY

	NASA FUNDING	COST SHARING
SALARIES		
Program Management	$ 3,020	$ 6,000
Administrative	$ 7,640	$ 5,000
FRINGE BENEFITS	$ 2,123	$ 3,273
INDIRECT COSTS	-0-	$ 5,863
SUPPLIES	$ 900	-0-
CONFERENCE TRAVEL	$ 1,354	
LOCAL TRAVEL		$ 600
SPACE CAMP	$ 5,260	-0-
	-0-	-0-
SATURDAY SCIENCE	$ 2,000	-0-
AFTER SCHOOL SPACE SCI	$ 1,703	$ 8,014
COMMUNICATIONS	-0-	$ 750
PUBLIC FORUMS	$ 6,000	$ 500
TOTAL	**$30,000**	**$30,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

STATE UNIVERSITY OF WEST GEORGIA

	NASA FUNDING	COST SHARING
TRAVEL	$ 2,000	$ 2,000
SOFTWARE	$ 3,500	$ 3,500
MATERIALS AND SUPPLIES for development of test facility	$ 5,000	$ 5,000
SALARIES		
Dr. Ben DeMayo	$ 7,500	$18,000
TOTAL	**$18,000**	**$25,500**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

TUSKEGEE UNIVERSITY

	NASA FUNDING	COST SHARING
SALARIES		
5% Summer/50% summer		
Fringe benefits 16.5%	$ 4561	
TRAVEL		
Buses	$ 3,300	
Lodging	$ 1,250	
Tickets	$ 1,200	
Other travel expenses	$ 3,000	
SUPPLIES	$ 939	$ 3,000
STUDENT SUPPORT	$ 9,700	$22,000
CONSULTANTS/LECTURES	$ 1,050	
FELLOWSHIPS	$30,000	
TOTAL	**$55,000**	**$25,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

SPELMAN COLLEGE

	NASA FUNDING	COST SHARING
	$ 2,100	
EXPANSION		15,000
ıltant for GRE Tests	$ 1,000	
Pre Instructors	$ 3,803	
: @ 22%	$ 837	
ct Costs @ 72.5%	$ 2,760	
ies	$ 1,000	
ish Mentor Hotline	$ 2,500	
letter	$ 1,000	
	$15,000	**$15,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

MORRIS BROWN COLLEGE

	NASA FUNDING	COST SHARING
SUPPLIES AND MATERIALS (computer software, disks, lab materials)	$5,000	$5,000
TOTAL	**$5,000**	**$5,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

SOUTHERN POLYTECHNIC STATE UNIVERSITY

	NASA FUNDING	COST SHARING
AEROSPACE WORKSHOPS	$ 7,000	
SATURDAY SCIENCE PROGRAMS	$ 5,000	
COMMUNITY INVOLVEMENT	$ 8,751	
SALARIES		$25,000
TRAVEL	$ 4,249	-0-
TOTAL	**$25,000**	**$25,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

MOREHOUSE COLLEGE

	NASA FUNDING	COST SHARING
GRE PREPARATION PROGRAM	$ 6,000	
COURSE DEVELOPMENT ASTRONOMY GRE COURSES	$8,000	
EDWARD BOUCHET AWARDS - Graduate school application fees	$ 400	
TRAVEL meetings with consortium members/conferences	$ 3,600	
PROGRAM MANAGEMENT		$ 18,000
TOTAL	**$18,000**	**$ 18,000**

1997-1998 BUDGET
GEORGIA SPACE GRANT CONSORTIUM

MERCER UNIVERSITY

	NASA FUNDING	COST SHARING
MATERIALS	$ 2,000	
SALARIES		
Coordinator (Craig Anderson)		$10,000
Undergraduate asssistants	$ 5,850	
Clerical Support	$ 650	
TRAVEL	$ 1,500	-0-
TOTAL	**$10,000**	**$10,000**

1997-1998 Georgia Space Grant Consortium Members

Georgia Institute of Technology - lead institution
Dr. Erian Armanios, Director
Georgia Space Grant Consortium
Aerospace Engineering
Atlanta, GA 30332-0150
(404) 894-9313 - office - (404) 894-9313 - fax
e-mail - erian.armanios@aerospace.gatech.edu

Georgia Institute of Technology - lead institution
Wanda Pierson, Program Coordinator
Georgia Space Grant Consortium - Aerospace Engineering
Atlanta, GA 30332-0150
(404) 853-0055 - office - (404) 894-9313 - fax
e-mail - wanda.piersonjeter@aerospace.gatech.edu

Clark Atlanta University (HBCU)
Dr. Kofi Bota
Vice President of Research and Sponsored Programs
James P. Brawley at Fair Streets, SW
Atlanta, GA 30314
(404) 880-6995 - office

Spelman College (HBCU/100% female)
Ms. Marquette Brown
Director, Office of Science, Engineering
and Technical Careers
350 Spelman Lane - Box 1595
Atlanta, GA 30314-4399
(404) 215-7710 - office (404) 215-7755 - FAX
email - mbrown2@auc.edu

Tuskegee University (HBCU)
Dr. Phil Loretan/Carlton Perkins
Agriccultural Experiment Station
109 Campbell Hall
Tuskegee, GA 36088
(334) 727-8129 - office (334) 724-4451 FAX

Southern Polytechnic State University
Mr. Anthony Docal, GYSTC
100 S. Marietta Parkway
Marietta, GA 30060-2896
(770) 528-6272 office - (770) 528-4980 - FAX
email - adocal@st6000.sct.edu

Kennesaw State University
Dr. Army Lester, Biology Department
P.O. Box 444
Kennesaw, GA 30061
(770) 423-6164 office (770) 423-6625 FAX
email - alester@KSCmail.Kennesaw.edu

State University of West Georgia
Dr. Ben de Mayo, Professor
Physics Department
Carrollton, GA 30118
(770) 836-6485 office - (770) 836-6791 - FAX
em ail - bdemayo@sun.cc.westga.edu

Morehouse College
Ms. Michelle Williams
Department of Physics
830 Westview Dr, SW
Atlanta, GA 30314
(404) 215-2615 - office (SAME FAX)

Morris Brown College (HBCU)
Dr. Reginald Lindsey
Chair - Chemistry Department
643 Martin Luther King Drive SW
Atlanta, GA 30314
(404) 220-0176 - office
e ail - RLindsey@bellosuth.net

Mercer University
Phil Olivier
School of Engineering
1400 Coleman Avenue
Macon, GA 31207-0001
(912) 752-2355 - office (912) 752-2166

Executive Summary

The focus of the Georgia Space Grant Consortium (GSGC) activities in the next budget period (February 1, 1997 - January 31, 1998) aims toward the continuing effort to support underrepresented minority and female students and encourage them to pursue careers in science, math, and engineering; expand collaboration between HBCUs and majority member institutions in the research area and dual degree programs; enhance student initiated and conducted pre-college outreach programs. These goals will be accomplished by capitalizing on the large number of HBCUs in the State, and working with 100% female institutions such as Agnes Scott College and Spelman College.

The GSGC will continue its efforts towards increasing its members and industrial affiliates. Valdosta State University and Columbus State University will join the consortium during 1997, which will allow us to maximize our efforts throughout Georgia.

Fellowships and Scholarships

The Consortium has had tremendous success in recruiting, and retaining women and students from underrepresented minorities. Continued efforts to attract the brightest students from underrepresented groups will continue. The GSGC continues the balance between undergraduate and graduate fellowships with the majority of fellowships at Georgia Tech allocated to graduate students, while the rest of the members allocate theirs to undergraduate students. As in the past, 100% of the fellowship recipients are from underrepresented groups. The ratio of applicants to awards is expected to double within the next five years based on the projected increase in student enrollment and the addition of new member institutions. The GSGC is will continue to with other organizations to provide joint fellowship/scholarship funding. Additional scholarship will be given to women and students from underrepresented minorities through groups such as the Georgia Tech Women's Forum, a African American female sorority - Alpha Kappa Alpha, Inc., the National Technical Association, the Society of Hispanic Engineers and others.

Research Infrastructure/Higher Education

Research collaboration between member institutions for developing and enhancing research infrastructure will focus on joint interdisciplinary proposals to funding agencies; use of laboratory facilities; and joint faculty advisement for students working on research grants. Georgia Tech continues joint research projects with Clark Atlanta University in the area of Smart Structures and Advanced Materials funded by the Army Research Office; and with Morris Brown in the area of Computer Sciences funded by NSF. Joint proposal writing will be ongoing.

West Georgia College will continue working with local industry through the Advanced Test and Measurement Resource Facility in order to enable manufacturers to use the latest testing hardware and software to increase productivity. The funding for this program will be increased significantly to include student assistance and projects. Currently, the project involves only professors and members of industry in research efforts. Including students in this effort will enhance our research and higher education objectives.

Precollege

Presentations on the Mars Pathfinder will be expanded to not only students in classrooms, but this year will include pre-service and in-service workshops for teachers. During 1997, the presentations have been expanded to include the Mars Global Surveyor.

The "Discover Aerospace" Program will continue with members of industry and other non profit groups. The introduction of an interactive Aerospace CD that teaches the basic low speed aerodynamics was well received. More CDs are planned for 1998 and for mass distribution to other consortia.

Tuskegee University will continue its K-12 training and tour program at the University's National Historic Site and the NASA Center for Food Production, Processing and Waste Management for Controlled Ecological Life Support Systems.

Kennesaw State College continued their College/Community Operated Science Camp for underrepresented rural and suburban precollege students in Science, Engineering and Math. Kennesaw College will also expand their SAT preparation classes for high school students from underrepresented groups in an effort to increase scores.

The Georgia Youth Science and Technology Center at Southern Tech will continue the newly implemented Student Weekend laboratory courses for elementary and secondary participants in Chemistry, Physics, Astronomy and Computer Sciences. Teacher Enhancement programs will continue in aerospace science and Technology addressing career opportunities for underrepresented minorities in engineering. West Georgia College will continue the Aerospace Education Workshop for In-Service Teachers. The Workshop acquaints teachers with various aspects of NASA's Space Program and provides hands-on activities, speakers and field trips to Marshall and Kennedy Space Centers.

The collaboration between the GSGC and the Southeastern Consortium for Minorities in Engineering (SECME) for precollege programs has expanded. In previous years, the consortium has provided scholarships for teachers to attend the summer institute. The focus of the program is to increase the number of minority students who are qualified for, entering, and completing studies in engineering, mathematics and science. SECME works through teachers at the middle grade and high school level to enhance classroom instruction, inform students about available opportunities, motivate them, provide hands-on experiences in science and mathematics, and provide role models and other motivational and informative activities.

General Public/External Relations

The Georgia Space Grant will participate in the Warner Robins Air Force Base Open House, Technology Week, National Engineers Week, Technology Fest at Southern Tech, and the Georgia Science Teachers Conference in order to provide information to the general public. The GSGC will participate in each of these events with members of industry and/or non profit organizations.

1997-1998
GEORGIA SPACE GRANT CONSORTIUM AFFILIATES

The Georgia Youth Science and Technology Center at Southern Tech will continue the Student Weekend laboratory courses for elementary and secondary participants in Chemistry, Physics, Astronomy and Computer Sciences. Teacher Enhancement programs are planned to promote aerospace science and technology addressing career opportunities for underrepresented minorities in engineering. These programs will include seminars and assemblies. NASA's SSIP contests will continue to be administered through the office, with the assistance of Georgia Tech. The QEM/NASA sponsored SHARP Plus Program with consortium members will start its second year in conjunction with Georgia Tech, Clark Atlanta, Kennesaw, Morris Brown, The National Technical Association, Lockheed, and Spelman College.

Clark Atlanta University (HBCU) will continue to provide scholarships to undergraduate and graduate students in science, engineering, and other technical fields. CAU will conduct Saturday Science Academies for middle school students year around. Georgia Tech has joint research projects with Clark Atlanta University in the area of Smart Structures and Advanced Materials funded by the Army Research Office. This effort will be extended to include an undergraduate research component in order to attract them to graduate programs and provide a smooth transition to graduate school.

Georgia Institute of Technology. There will be continued funding of graduate students from underrepresented groups. Georgia Tech will also devote more funding to developing the network of universities in the consortium. Georgia Tech will be responsible for monitoring all program, as well as seeking new affiliate members. Programs from Georgia Tech will involve collaborative research and higher education programs.

Kennesaw College will continue the one month college/community camp to help minority, middle school students from rural and suburban areas develop skills to motivate them to do well in science, engineering, and math (SEM); to provide minority students with information on career opportunities in SEM; and to provide positive images of SEM related subjects and individuals. This will be accomplished through guest speakers, laboratory work, research projects, career explorations, field trips, and seminars. Tutoring and mentoring continues year around. Parents, college students, local scientists, teachers, and community based organizations will all have key roles in this program.

Morris Brown College (HBCU) will distribute their package of education aids for elementary and high school students. The package details the role that science, technology, and engineering play in today's society. Modules of the educational package address various branches of science and engineering, with the focus on information technology, communication technology, transportation, biotechnology space sciences, and manufacturing. The Distance Learning Center at Morris Brown will still be used to broadcast information to other schools in Georgia.

Spelman College (HBCU) continues with its network of mentors consisting of alumni and other individuals engaged in scientific careers. Fellowships will continue to be awarded to females through the Office of Science, Engineering, and Technical Careers. GRE preparation courses for Spelman seniors will continue to be taught by Georgia Tech's Space Grant Fellows, but this year Morehouse will be involved in the planning and administration. Support for travel to regional and national scientific meetings will increase. The Speaker's bureau will continue and the centralized collection of resource materials area will be updated; there will be more support for laboratory research; and further career development and professional enrichment counseling.

Tuskegee University (HBCU) will continue its K-12 training and tour program at the University's National Historic Site and the NASA Center for Food Production, Processing and Waste Management for Controlled Ecological Life Support Systems. The College of Engineering at Tuskegee will continue working with the College of Engineering at Georgia Tech to design a retention program for alumni of Tuskegee who go to Tech for graduate school. Fellowships for undergraduate and graduate students will continue.

West Georgia College will continue the Aerospace Education Workshop for In-Service Teachers. The Workshop acquaints teachers with various aspects of NASA's Space Program and provides hands-on activities, speakers and field trips to Marshall and Kennedy Space Centers. West Georgia College will also work with local industry through the Advanced Test and Measurement Resource Facility in order to enable manufacturers to use the latest testing hardware and software to increase productivity.

Mercer University will send engineers to rural Georgia to encourage interest in science and engineering as a career. Engineers and Scientists will provide demonstrations to motivate students and the general public. Mercer will also invite engineering, science and math majors having difficulty with Calculus to participate in a program based on the KUMON method for teaching mathematics. This effort will provide an alternative to the support provide through tutoring sessions and supplemental instructional efforts already under way. The KUMON method will stress individually paced learning based on drills and practice. Mercer will also support the research of one student in her research on Control Strategies for Large Segmented Mirrors and provide travel funds for her and/or the faculty principal investigator.

Morehouse College will start an astronomy class which will utilize instructors from other consortium members. Morehouse will provide funding for students to attend conferences and give paper presentations; work in conjunction with Spelman College to provide GRE preparation classes; and start a speakers bureau to invite scientists and engineers from industry, government and academia to the campus. Morehouse will also provide seed money for students to start research projects in the Atlanta University Center, which consists of 4 other Historically Black Colleges and Universities.

PROGRESS REPORT
February 1, 1996 - January 31, 1997

The Georgia Space Grant Consortium (GSGC) has 10 institutions including four Historically Black Colleges and Universities (HBCUs); and two non profit organizations, the Atlanta Chapter of the National Technical Association, and Options - Image of the Future; and Rolls Royce as an industrial affiliate. The progress of the Georgia Space Grant Consortium is highlighted under the objectives of the National Space Grant and Fellowship Program.

To establish a network of colleges and universities with interests and capabilities in aeronautics, space and related fields
New members for 1997 will include Valdosta State University and Columbus State University.

To encourage cooperative programs among universities, aerospace industry, and federal, state, and local government;
Cray Research will continue to participate in the "Discover Aerospace" series during 1997-97 The State of Georgia continues to provide cost sharing for Georgia Tech, Georgia State, and Kennesaw State University.

To encourage interdisciplinary training, research, and public service programs related to aerospace;
Clark Atlanta University's School of Physics and Georgia Tech's School of Aerospace *Engineering continue to work on research projects. A proposal which includes Georgia Tech, Southern Tech, Columbus State University, Tuskegee University, State University of West Georgia, and Kennesaw State University was submitted to a federal agency for an interdisciplinary training grant.*

To recruit and train professionals, especially underrepresented groups for careers in aerospace science, technology, and allied fields;
One hundred percent of all fellowships are awarded to women and or underrepresented groups. The first African American female to complete her Ph.D. in Mechanical Engineering at Georgia Tech is currently working at Lucent Technologies and continues to provide mentoring to female space grant fellows and others in the pipeline. Another African American Space Grant fellow is now an Assistant Professor at Tulane University and is continuing his research with Space Grant funding. The consortium will put together a directory of all fellowship recipients and show their progression through the last eight years.

To promote a strong science, mathematics and technology base from elementary through university levels.
Sponsored numerous K-12 programs including summer courses for high school students; science competitions; in-service training for teachers; field trips; internships; mentors; and provided aerospace materials and supplies for schools. During 1996, the Space Grant sponsored an exhibit of NASA spinoffs that impact daily life. This exhibit will circulate throughout public schools in the State of Georgia.

(Enclosure 1)

Proposal No.: 02.105.002.97.012

Principal Investigator: Dr. Erian Armanios

Title: Georgia Space Grant Consortium

Certification Regarding Debarment, Suspension, and Other Responsibility Matters--Primary Covered Transactions

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department of agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Certified By:

(Signature) 10/28/96 (Date)

Janis L. Goddard

(Typed Name)

Contracting Officer

(Title)

Georgia Tech Research Corporation

(Institution)

(Enclosure 1)

Certification Regarding Drug-Free Requirements

A. The grantee certifies that it will provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing a drug-free awareness program to inform employees about --

(1) The dangers of drug abuse in the work place;

(2) The grantee's policy of maintaining a drug-free workplace

(3) Any available drug counseling, rehabilitation, and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will --

(1) Abide by the terms of the statement and

(2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction.

(e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice under subparagraph (d)(2), with respect to any employee who is so convicted--

(f) Taking one of the following actions within 30 days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted--

(1) Taking appropriate personnel action against such an employee, up to and including termination; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

B. The grantee shall insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

Georgia Institute of Technology, Atlanta, Fulton County, Georgia 30332

Certified By:

[redacted] 10/28/96

(Signature) (Date)

Janis L. Goddard

(Typed Name)

Contracting Officer

(Title)

Georgia Tech Research Corporation

(Institution)

(Enclosure 1)

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned. to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooeprative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000, and not more than $100,000 for each such failure.

Certified by:

(_____ 10/28/96

Authorized Official (Signature) Date

Janis L. Goddard

Typed Name

Contracting Officer

Title

Georgia Tech Research Corporation

Institution

E-16-612
#5

1996-1997 Georgia Space Grant Consortium Members

Georgia Institute of Technology - lead institution
Dr. Erian Armanios,Director
Georgia Space Grant Consortium
Aerospace Engineering
Atlanta, GA 30332-0150
(404) 894-9313 - office - (404) 894-9313 - fax
e-mail - erian.armanios@aerospace.gatech.edu

Georgia Institute of Technology - lead institution
Wanda Pierson-Jeter, Program Coordinator
Georgia Space Grant Consortium - Aerospace Engineering
Atlanta, GA 30332-0150
(404) 853-0055 - office - (404) 894-9313 - fax
e-mail - wanda.piersonjeter@aerospace.gatech.edu

Georgia State University
Dr. Cleon Arrington
Vice President of Research
University Plaza
Atlanta, GA 30303
(404) 651-3157 - office

Clark Atlanta University (HBCU)
Dr. Kofi Bota
Vice President of Research and Sponsored Programs
James P. Brawley at Fair Streets, SW
Atlanta, GA 30314
(404) 880-6995 - office

Spelman College (HBCU/100% female)
Dr. Etta Falconer
Associate Provost for Science
Programs and Policy
Atlanta, GA 30314
(404) 223-7634 - office (404) 223-7662 - FAX
email - efalcone@etta.auc.edu

Tuskegee University (HBCU)
Dr. Phil Loretan/Carlton Perkins
Agriccultural Experiment Station
109 Campbell Hall
Tuskegee, GA 36088
(334) 727-8129 - office (334) 724-4451 FAX

Georgia Space Grant Consortium Affiliates
1996-1997

Southern College of Technology
Mr. Anthony Docal, GYSTC
100 S. Marietta Parkway
Marietta, GA 30060-2896
(770) 528-6272 office - (770) 528-4980 - FAX
email - adocal@st6000.sct.edu

Kennesaw State College
Dr. Army Lester, Biology Department
P.O. Box 444
Kennesaw, GA 30061
(770) 423-6164 office (770) 423-6625 FAX
email - alester@KSCmail.Kennesaw.edu

West Georgia College
Dr. Ben de Mayo, Professor
Physics Department
Carrollton, GA 30118
(770) 836-6485 office - (770) 836-6791 - FAX
em ail - bdemayo@sun.cc.westga.edu

Morehouse College
Ms. Michelle Williams
Department of Physics
830 Westview Dr, SW
Atlanta, GA 30314
(404) 215-2615 - office (SAME FAX)

Morris Brown College (HBCU)
Dr. John Trimble
Chair, Computing and Information Science Dept
643 Martin Luther King Drive SW
Atlanta, GA 30314
(404) 220-0105 - office
em ail - jatrimble@aol.com

Mercer University
Dr. C.B. Gambrell
1400 Coleman Avenue
Macon, GA 31207-0001
(912) 752-2332 - office

Executive Summary

The focus of the Georgia Space Grant Consortium (GSGC) activities in the next budget period (February 1, 1996 - January 31, 1997) aims toward the continuing effort to support underrepresented minority and female students and encourage them to pursue careers in science, math, and engineering; expand collaboration between HBCUs and majority member institutions in the research area and dual degree programs; enhance student initiated and conducted pre-college outreach programs; and take advantage of the 1996 Summer Olympics in Atlanta to illustrate NASA's leading role in the education of this nation's future scientist and engineers.

The GSGC will continue its efforts towards increasing its members and industrial affiliates. A continuing target will be the inclusion of all the state HBCUs. By the end of the program year, we expect to have included Savannah State College and Fort Valley State College which are HBCUs. In 1995, the GSGC added Morehouse College and Mercer University as members of the consortium.

Fellowships and Scholarships

Continued efforts to attract the brightest students from underrepresented groups will continue. The GSGC continues the balance between undergraduate and graduate fellowships with the majority of fellowships at Georgia Tech and Georgia State allocated to graduate students, while the rest of the members allocate theirs to undergraduate students. As in the past, 100% of the fellowship recipients are from underrepresented groups. The ratio of applicants to awards is expected to double within the next five years based on the projected increase in student enrollment and the addition of new member institutions. The GSGC is will continue to with other organizations to provide joint fellowship/scholarship funding. During 1995, the GSGC teamed with the Southeastern Consortium for Minorities in Engineering (SECME); Alpha Kappa Alpha Sorority; the Georgia Tech Women's Forum, and the National Technical Association (NTA) to provide scholarships to women and/or members of underrepresented groups.

Research Infrastructure/Higher Education

Research collaboration between member institutions for developing and enhancing research infrastructure will focus on joint interdisciplinary proposals to funding agencies; use of laboratory facilities; and joint faculty advisement for students working on research grants. Georgia Tech continues joint research projects with Clark Atlanta University in the area of Smart Structures and Advanced Materials funded by the Army Research Office; and with Morris Brown in the area of Computer Sciences funded by NSF. Joint proposal writing will be

ongoing. Georgia Tech and Clark Atlanta continued writing joint proposals in 1995 and funding is anticipated for 1996.

Collaboration with industry will be expanded. West Georgia College will continue working with local industry through the Advanced Test and Measurement Resource Facility in order to enable manufacturers to use the latest testing hardware and software to increase productivity. There are plans to increase the program due to the success of the program during 1995.

Mercer University will involve their school of Pharmacology in research programs during 1996.

Precollege

This year, the consortium was very involved in presentations on the Mars Pathfinder. JPL provided a 1/10th scale model of the Pathfinder to Assistant Professor Kurt Gramoll in the School of Aerospace Engineering. The grant was renewed for 1996 and the consortium will continue to set up the presentations in conjunction with their "Discover Aerospace" Program." This year the "Discover Aerospace" Program has been expanded to include members of industry. Cray Research will provide personnel to discuss how computers are used in the aerospace industry. In addition, "Discover Aerospace" will be enhanced by the addition of an interactive Aerospace CD that teaches the basic low speed aerodynamics. "Discover Aerospace" has also been the blueprint for other programs. The GSGC will start "Discover Atmospheric Sciences" and "Discover Physics" during 1996, once again using graduate students to present the lectures to high school students.

The GSGC in conjunction with the Atlanta Chapter of the National Technical Association; and Omega Psi Phi Fraternity will continue the third year of the Statewide African American Science Trivia Competitions for high school students. The GSCG provided winning teams with funding to participate in other science, engineering, or math competitions.

Tuskegee University will continue its K-12 training and tour program at the University's National Historic Site and the NASA Center for Food Production, Processing and Waste Management for Controlled Ecological Life Support Systems.

Kennesaw State College will expand their College/Community Operated Science Camp for underrepresented rural and suburban precollege students in Science, Engineering and Math. Kennesaw College will also begin SAT preparations classes for high school students from underrepresented groups in an effort to increase scores. Morris Brown College will distribute their package of educational aids, developed in 1995, for elementary and high school students that details the role that science, technology, and engineering.

The Georgia Youth Science and Technology Center at Southern Tech will continue the newly implemented Student Weekend laboratory courses for elementary and secondary participants in Chemistry, Physics, Astronomy and Computer Sciences. Teacher Enhancement programs will continue in aerospace science and Technology addressing career opportunities for underrepresented minorities in engineering. West Georgia College will continue the Aerospace Education Workshop for In-Service Teachers. The Workshop acquaints teachers with various aspects of NASA's Space Program and provides hands-on activities, speakers and field trips to Marshall and Kennedy Space Centers.

The close collaboration between the GSGC and the Southeastern Consortium for Minorities in Engineering (SECME) for precollege programs has expanded. In previous years, the consortium has provided scholarships for teachers to attend the summer institute. During 1996, the consortium will provide funding for the speakers, which always includes NASA personnel. The focus of the program is to increase the number of minority students who are qualified for, entering, and completing studies in engineering, mathematics and science. SECME works through teachers at the middle grade and high school level to enhance classroom instruction, inform students about available opportunities, motivate them, provide hands-on experiences in science and mathematics, and provide role models and other motivational and informative activities.

General Public/External Relations

During 1996 Olympics, the consortium will sponsor a major exhibition in the City of Atlanta to demonstrate how Spinoffs of NASA technology have enhanced sports. The exhibit will continue after the Olympics to show how NASA technology has benefited the State of Georgia.

The GSGC will continue to participate in the Warner Robbins Air Force Base Open House which attracts over 200,000 people per year.

GEORGIA SPACE GRANT CONSORTIUM AFFILIATES

The Georgia Youth Science and Technology Center at Southern Tech will continue the Student Weekend laboratory courses for elementary and secondary participants in Chemistry, Physics, Astronomy and Computer Sciences. Teacher Enhancement programs are planned to promote aerospace science and technology addressing career opportunities for underrepresented minorities in engineering. These programs will include seminars and assemblies. NASA's SSIP contests will continue to be administered through the office, with the assistance of Georgia Tech. The QEM/NASA sponsored SHARP Plus Program with consortium members will start its second year in conjunction with Georgia Tech, Clark Atlanta, Kennesaw, Morris Brown, The National Technical Association, Lockheed, and Spelman College.

Clark Atlanta University (HBCU) will continue to provide scholarships to undergraduate and graduate students in science, engineering, and other technical fields. CAU will conduct Saturday Science Academies for middle school students year around. Georgia Tech has joint research projects with Clark Atlanta University in the area of Smart Structures and Advanced Materials funded by the Army Research Office. This effort will be extended to include an undergraduate research component in order to attract them to graduate programs and provide a smooth transition to graduate school.

Georgia State University Georgia State will continue to provide fellowships to graduate students from underrepresented groups. Ph.D. Students in the School of Education will design evaluations and conduct evaluations of Space Grant Programs.

Georgia Institute of Technology. The primary focus of Georgia Tech will be coordinating an exhibit during the 1996 Olympics in Atlanta which will show how NASA Spinoffs have enhances sports and sports medicine. Georgia Tech will further continue its research with Allison (Rolls-Royce) on High Temperature Materials. There will be continued funding of graduate students from underrepresented groups. Georgia Tech will also devote more funding to developing the network of universities in the consortium.

Kennesaw College will continue the one month college/community camp to help minority, middle school students from rural and suburban areas develop skills to motivate them to do well in science, engineering, and math (SEM); to provide minority students with information on career opportunities in SEM; and to provide positive images of SEM related subjects and individuals. This will be accomplished through guest speakers, laboratory work, research projects, career explorations, field trips, and seminars. Tutoring and mentoring continues year around. Parents, college students, local scientists, teachers, and community based organizations will all have key roles in this program.

Morris Brown College (HBCU) will distribute their package of education aids for elementary and high school students. The package details the role that science, technology, and engineering play in today's society. Modules of the educational package address various branches of science and engineering, with the focus on information technology, communication technology, transportation, biotechnology space sciences, and manufacturing.

The Distance Learning Center at Morris Brown will still be used to broadcast information to other schools in Georgia.

Spelman College (HBCU) continues with its network of mentors consisting of alumni and other individuals engaged in scientific careers. Fellowships will continue to be awarded to females through the Office of Science, Engineering, and Technical Careers. GRE preparation courses for Spelman seniors will continue to be taught by Georgia Tech's Space Grant Fellows, but this year Morehouse will be involved in the planning and administration. Support for travel to regional and national scientific meetings will increase. The Speaker's bureau will continue and the centralized collection of resource materials area will be updated; there will be more support for laboratory research; and further career development and professional enrichment counseling.

Tuskegee University (HBCU) will continue its K-12 training and tour program at the University's National Historic Site and the NASA Center for Food Production, Processing and Waste Management for Controlled Ecological Life Support Systems. The College of Engineering at Tuskegee will continue working with the College of Engineering at Georgia Tech to design a retention program for alumni of Tuskegee who go to Tech for graduate school. Fellowships for undergraduate and graduate students will continue.

West Georgia College will continue the Aerospace Education Workshop for In-Service Teachers. The Workshop acquaints teachers with various aspects of NASA's Space Program and provides hands-on activities, speakers and field trips to Marshall and Kennedy Space Centers. West Georgia College will also work with local industry through the Advanced Test and Measurement Resource Facility in order to enable manufacturers to use the latest testing hardware and software to increase productivity. This effort will expand as the result of growth in 1995.

Mercer University will send engineers to rural Georgia to encourage interest in science and engineering as a career. Engineers and Scientists will provide demonstrations to motivate students and the general public. Mercer will also invite engineering, science and math majors having difficulty with Calculus to participate in a program based on the KUMON method for teaching mathematics. This effort will provide an alternative to the support provide through tutoring sessions and supplemental instructional efforts already under way. The KUMON method will stress individually paced learning based on drills and practice. Mercer will also

support the research of one student in her research on Control Strategies for Large Segmented Mirrors and provide travel funds for her and/or the faculty principal investigator.

Morehouse College will provide funding for students to attend conferences and give paper presentations; work in conjunction with Spelman College to provide GRE preparation classes; and start a speakers bureau to invite scientists and engineers from industry, government and

academia to the campus. Morehouse will also provide seed money for students to start research projects in the Atlanta University Center, which consists of 4 other Historically Black Colleges and Universities.

GEORGIA SPACE GRANT CONSORTIUM BUDGET
February 1996 - January 1997

	TOTAL	NASA	COST SHARING
SALARIES			
Director (1/4 time)	19,000	12,600	6,400
Administrator	37,000	28,000	9,000
Additional Support	3,000	-0-	3,000
Fringe benefits 24.8	14,632	10,068	4,564
TRAVEL	6,871	5,750	1,121
SUPPLIES			
Subscriptions	200	-0-	200
Memberships	500	-0-	500
Stationery	1,200	-0-	1,200
Miscellaneous	600	-0-	600
PROGRAMS			
K-12 (SECME)	4,484	4,484	-0-
Higher Ed/Research Seed money	29,317	-0-	29,317
EQUIPMENT	5,000	-0-	5,000
SUBTOTAL	121,804	$60,902	$60,902
FELLOWSHIPS	100,000	100,000	-0-
SUBCONTRACTS			
Spelman	30,000	15,000	15,000
Tuskegee	50,000	25,000	25,000
Clark Atlanta	50,000	25,000	25,000
Georgia State	40,000	20,000	20,000
Southern Tech	46,000	23,000	23,000
**West Georgia*	24,000	12,000	12,000
**Kennesaw*	10,000	5,000	5,000
**Morris Brown*	10,000	5,000	5,000
**Morehouse*	20,000	10,000	10,000
**Mercer*	20,000	10,000	10,000
**National Technical Assn*	4,000	2,000	2,000
SUBTOTAL	304,000	152,000	152,000
OVERHEAD	82,046	42,098	39,948
	TRAVEL - $1000 - NASA REIMBURSEMENT FOR SPACE GRANT CONF 4/96	1,000	-0-
GRAND TOTALS	608,850	356,000	252,850

**Subcontracts that have not fulfilled total overhead requirements.*

GEORGIA SPACE GRANT CONSORTIUM
Salaries, Wages, and Fringe Benefits
February 1, 1996- January 31, 1997

Georgia Tech

Erian Armanios, Director
1/4 time (10 hours per week) — *$23,712 includes 24.8% fringe benefits*

Wanda Pierson-Jeter, Program Coordinator
full-time (40 hours per week) — *$46,176 includes 24.8% fringe benefits*

Spelman College

Faculty	*$3,803*
Fringe Benefits	*$ 837*

Tuskegee University

Carlton Morris, Associate Professor
1/5 time (8 hours per week)
Summer, 50% (20 hours per week) — *$6,337* includes *16.5% fringe benefits*

West Georgia College

Ben De Mayo, Campus Director — *$4,000*

Kennesaw College

Student Stipends — *$3,000*
($5.00 per hour - 12 students)

Clark Atlanta University

Management — *$12,783*

Mercer University

Faculty — *$5800*

TOTAL SALARY, WAGES AND FRINGES **$106,448** (Only Georgia Tech includes Cost Sharing)

GEORGIA SPACE GRANT CONSORTIUM
Estimated Travel Breakdown-
February 1, 1996- January 31, 1997

Williamsburg, VA (Southern Tech, Georgia Tech, West Georgia travel)

Plane fare - $520 round-trip for 6 people =	$ 3100 (one additional person @ $500)
Per diem 4 days @ $35.00 for 5 people -	$ 700
Rental car for 5 days @ $30.00 per day	$ 150
Hotel for 5 nights/5 people/$85 per day	$ 2125
Conference fees - $125 for 5 people	$ 625
Miscellaneous	$ 200
TOTAL	**$6900**

Purposes:
- Fourth National Space Grant Conference
- Southeastern Space Grant Regional Director's Meetings.

Warner Robbins Air Force Base (Georgia Tech travel)

Warner Robbins, Georgia
Date - Summer/Fall
# of persons - 3

Per diem 2 days @ $35.00 for 3 people -	$ 210
Rental car for 2 days @ $25.00 per day	$ 50
Hotel for 1 nights/3 people/$60 per day	$ 180
Mileage @ 22 cents per mile - 140 miles	$ 31
TOTAL	**$ 471**

Purpose - Annual Open house to increase awareness of aerospace industry and educational opportunities in the State of Georgia

Marshall Space Flight Center - (Tuskegee travel)

Buses	$3300
Lodging	$1250 (25 rooms)
Tickets	$1200
Other	$3000
TOTAL	**$8750**

Sci Trek
Atlanta, GA

Buses	**TOTAL**	**$ 700**

Spelman College

Travel for conferences	$2100

Space Grant Nationa/lRegional Director's Meeting (Georgia Tech Travel)

No location - estimated annual costs	$3000.

Augusta Georgia/Georgia Science Teachers Conference (Southern Tech Travel)

Rental Car for 2 days @ $25.00 per day	$ 50
Hotel for 2 nights/2 people/$80.00 per day	$ 160
Per Diem 2 days @ $35.00/2 people	$ 140
Miscellaneous (tips, etc)	$ 19
TOTAL	**$ 369**

Travel to NASA Stennis (Southern Tech Travel)
Purpose: Space Grant Representative on panel

Plane Fare - $260 round trip	$ 260
Hotel for 3 nights/$82.00 per day	$ 246
Per Diem 3 days @ $35.00	$ 105
Miscellaneous (tips, etc)	$ 19
TOTAL	**$ 630**

Travel to Conference (Clark Atlanta University Travel)

Airfare	$ 727
Registration	$ 75
Hotel @ $235 per day	$ 270
Car Rental	$ 168
Per Diem @ $34 per day	$ 102
Airport Parking	$ 12
	$1354

GRAND TOTAL	**$ 24,274**